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P Huxley,[1]* S Evans,[1] S Madge,[1] M Webber,[2] T Burchardt,[3] D McDaid[4] and M Knapp[4]

[1]Centre for Social Work and Social Care Research, College of Human and Health Sciences, Swansea University, Swansea, UK
[2]Health Service and Population Research Department, Institute of Psychiatry, King's College London, London, UK
[3]Centre for Analysis of Social Exclusion, London School of Economics, London, UK
[4]Personal Social Services Research Unit (PSSRU), London School of Economics, London, UK

*Corresponding author

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Abstract

Development of a social inclusion index to capture subjective and objective life domains (Phase II): psychometric development study

P Huxley,[1]* S Evans,[1] S Madge,[1] M Webber,[2] T Burchardt,[3] D McDaid[4] and M Knapp[4]

[1]Centre for Social Work and Social Care Research, College of Human and Health Sciences, Swansea University, Swansea, UK
[2]Health Service and Population Research Department, Institute of Psychiatry, King's College London, London, UK
[3]Centre for Analysis of Social Exclusion, London School of Economics, London, UK
[4]Personal Social Services Research Unit (PSSRU), London School of Economics, London, UK

*Corresponding author

Objectives: To produce a robust measure of social inclusion [Social and Community Opportunities Profile (SCOPE)] that is multidimensional and captures multiple life domains; incorporates objective and subjective indicators of inclusion; has sound psychometric properties including responsiveness; facilitates benchmark comparisons with normative general population and mental health samples [including common mental disorder (CMD) and severe mental illness groups]; can be used with people with mental health problems receiving support from mental health services or not; and can be used across a range of community service settings.

Design: Phase I: conceptual framework developed from a review of the literature and concept mapping. Phase II: questionnaire developed including UK national population surveys and other normative data. Pre-testing using cognitive appraisal and evaluation then pilot testing in a small convenience sample. Preliminary testing (following modification) in community ($n = 252$) and mental health service users (MHSUs) samples ($n = 43$). Data reduction including factor analysis and Mokken scaling for polytomous item response analysis then psychometric evaluation, including internal consistency and discriminant and construct validity. Test–retest reliability assessed in a convenience sample of students ($n = 119$). Final testing in clinical services including psychometric evaluation and responsiveness testing.

Setting: The community sample was set in participants' households across the UK. The MHSU sample was set in a south Wales resource centre. The student sample was set in a university.

Participants: The community sample was randomly selected from the postal address file in five areas in England and Wales. Forty people in this sample were subgrouped as having a CMD based on their responses to the Mental Health Index five items. Two MHSU samples were obtained from existing services.

Results: Psychometric testing on the field data from the SCOPE long version demonstrated good internal consistency of all scales (alpha ≥ 0.7), good construct validity, with SCOPE scales correlating highly with each other sharing between 40% and 61% of variance and a close but lesser association with community participation and social capital.

Chi-squared tests on objective items and analysis of variance between groups on SCOPE scales demonstrated good discriminant validity between different mental health groups (and better than the Mokken scaling results). Acceptability was good, with 77% of the service user sample finding the SCOPE domains relevant. The number of items in SCOPE decreased from 121 to 48 following data reduction. Scales in the short version of SCOPE retained reasonable internal consistency (alpha between 0.60 and 0.75). Test–retest reliability demonstrated reliability over time, with strong associations between all items over a 2-week period. Repeating the discriminant validity tests on the short version demonstrates good discriminant validity between the mental health groups. Acceptability improved, with 90% of the sample describing questions as relevant to them.

Conclusions: The main aim of producing an instrument with good psychometric properties for use in research and clinical settings, namely the SCOPE short version, was achieved. Ongoing data collection will enable responsiveness testing in the future. Further research is needed including larger samples of minority and disadvantaged groups, including those with physical illnesses and disabilities, and specific mental health diagnostic groups.

Funding: The National Institute for Health Research Health Technology Assessment programme.

Contents

List of abbreviations

ANOVA	analysis of variance
CAPI	computer-assisted personal interview
CASS	Centre for Applied Social Surveys
CMD	common mental disorder
CMHT	community mental health team
df	degrees of freedom
FLP	Functional Limitations Profile
GHQ	General Health Questionnaire
GP	general practitioner
Hafal	support organisation for those affected by severe mental illness
HTA	Health Technology Assessment
IPA	Impact on Participation and Autonomy Questionnaire
KMO	Kaiser–Meyer–Olkin
LLTI	limiting long-term illness
MANSA	Manchester Short Assessment of Quality of Life
MHC	mentally healthy community
MHI-5	Mental Health Index five items
MHSU	mental health service user
MSP	Mokken scaling for polytomous items
N/A	not available
NIMHE	National Institute of Mental Health England
NPMS	National Psychiatric Morbidity Survey
NS	not significant
O14	Fourteen-Item Objective Opportunity Rating
ONS	Office for National Statistics
ORS	Opinion Research Services
P13	Thirteen-Item Objective Participation Rating
Perceived Opps	perceived opportunities
PCA	principal component analysis
PI	principal investigator
QoL	quality of life
QuiLL	Quality of Life in Later Life
RCT	randomised controlled trial
RG-UK	Resource Generator-United Kingdom
SatOpps	satisfaction with opportunities
SCOPE	Social and Community Opportunities Profile
SD	standard deviation
SF-36	Short Form questionnaire-36 items
SIS	social interview schedule
SMI	severe mental illness
SQB	Surveys Question Bank
SR	standardised residual
SWB	subjective well-being
Tukey HSD	Tukey's (honestly significant difference) test

All abbreviations that have been used in this report are listed here unless the abbreviation is well known (e.g. NHS), or it has been used only once, or it is a non-standard abbreviation used only in figures/tables/appendices, in which case the abbreviation is defined in the figure legend or in the notes at the end of the table.

Executive summary

Background

This project is the second of a two-phase study involving the development of a social inclusion index to capture subjective and objective life domains. A review of the literature found that there was a considerable amount of work on measuring social capital, but only two studies on the measurement of social inclusion. These measures had not been conclusively tested in terms of psychometrics, acceptability, construct validity or responsiveness. There was a relative dearth of research looking at the relationship between structural and subjective indicators of inclusion compared with the volume of publications and level of interest in the relationship between these variables and health status. There was a need, therefore, for an established measure of social inclusion, for use in the general population or community mental health service settings.

Objectives

This phase therefore focuses on the further development and testing of a comprehensive social inclusion index that is suitable for use in both general population and mental health services research and routine outcomes measurement. The study objectives are to produce a robust measure of social inclusion that:

- is multidimensional and captures multiple life domains
- incorporates objective and subjective indicators of inclusion
- has sound psychometric properties, including responsiveness
- facilitates benchmark comparisons with normative general population and mental health samples, including common mental disorder and severe mental illness (SMI) groups
- can be used appropriately with people with mental health problems receiving, and not receiving, support from mental health services
- can be used across a range of community service settings.

Methods

This phase of the study consisted of four core components:

- *Component 1* involved the development and pre-testing of a draft instrument to check appropriateness and acceptability. The life domains identified in the first phase were populated with questions drawn, wherever possible, from UK national data surveys and other normative data. Subjective items were included in each domain using either five- or seven-point scales. The draft instrument was pre-tested using cognitive appraisal and participant evaluation then pilot tested within the wider research centre and in a community sample.
- *Component 2* involved the modification of the draft instrument, based on evaluation and interviewer experience prior to application in a community survey and other settings to generate data for component 3. The community survey sampled five areas in England and Wales using addresses drawn at random from the postal address file ($n = 252$). A further convenience sample of mental health service users (MHSUs) ($n = 43$) also completed the modified instrument plus an evaluation form.

- *Component 3* involved data reduction and psychometric evaluation, to produce a short version of the instrument. Descriptive statistics were used to identify and remove items that might result in missing data or had little or no variance. Factor analysis, parallel analysis and Mokken scaling for polytomous items (MSP) response analysis were used to identity underlying themes of social inclusion, and questions that were most highly associated with these themes were retained. Psychometric evaluation assessed internal consistency, discriminant validity of the scales and items with the instrument. Internal consistency of scales was assessed using Cronbach's coefficient alpha. Discriminant validity was tested in subsamples of different mental health groups, selected on the basis of their response to the mental health section of the UK Short Form questionnaire-36 items or by virtue of belonging to a service user group for those recovering from SMI. There were three subgroups from the community survey: the mentally healthy community (MHC) sample, those with common mental disorders (CMDs) and the MHSU groups. A second MHSU group was selected from community mental health teams receiving services aimed at improving inclusion.
- *Component 4* involved final field testing in clinical settings and beta testing in other services of the short version of the instrument. Test–retest reliability was tested in two convenience samples of university students ($n = 119$). Responsiveness has been established to a limited extent and will continue to be tested in the sample of people receiving services aiming to improve their social inclusion.

Results

The long Social and Community Opportunities Profile (SCOPE) consisted of objective questions about opportunities and participation, sourced, whenever possible, from national surveys (and using the same coding). The subjective ratings of Satisfaction with Opportunities (SatOpps) and subjective well-being (SWB) were measured on a seven-point 'delighted–terrible' scale. An overall subjective inclusion item was also measured on a delighted–terrible scale. The subjective rating of perceived opportunities (Perceived Opps) was measured on a five-point scale. Overall, the long SCOPE had 121 items including four demographic questions. Factor analysis showed that there were three major scales: (1) Perceived Opps, (2) SatOpps and (3) SWB. The subjective scales all showed internal consistency, with Cronbach's alpha scores of ≥ 0.7. The objective items did not form scales (in either the factor analytic method or MSP procedures) and were considered as individual items in subsequent analyses.

The impact of mental health status was examined using one-way between-groups analysis of variance, with Tukey HSD (honestly significant difference) post hoc adjustments. The three SCOPE subscales all demonstrated good discriminant validity when comparing people with limiting long-term illness (LLTI) and those without, and in three mental health groups: MHC – a healthy community sample; CMD – a common mental disorder community sample; and MHSU – people with severe mental health problems. The MHC sample had significantly higher scores than those of the CMD and MHSU groups for the SWB and SatOpps scales. The Perceived Opps also differed significantly according to mental health status. The three mental health status groups also differed significantly in their average ratings on the single-item 'overall satisfaction with inclusion'. The MHC scores were significantly higher than those for the CMD and MHSU groups, and CMD scores were slightly, but not significantly, higher than MHSU scores. The discriminant validity of MSP scales was not as good as the scales from the factor analytic method.

The relationship between mental health status and the objective opportunity and participation items was examined using chi-squared tests or Fisher's exact probability test, and, again, showed good discriminant validity. The three mental health status groups differed significantly on 11 of the 14 objective opportunity items, and on 9 of the 13 participation items. The groups were

similar in terms of the frequency of family contact or social activity, and accommodation type, debt and qualification levels. In most respects, a higher proportion of the MHC group had opportunities to be socially included than the mentally unwell groups.

Construct validity was assessed by correlating the SCOPE scales, overall inclusion items and the objective opportunity and participation items with related measures of community participation and social capital. The SCOPE scales correlated more highly with each other than with the measures of participation and social capital. The objective indicators of opportunity and participation were also correlated significantly with the subjective scales. The participation measure was only moderately correlated with the three SCOPE scales and the overall inclusion rating, although the objective participation items correlated more highly. Social capital was associated more closely with the objective opportunity items and the Perceived Opps for inclusion scale than any of the other SCOPE scales, but still shared less than one-quarter of the variance, suggesting that the two concepts are related but not the same. These results and linear regression models that control for each concept confirmed that social inclusion is similar to, but not the same as, social capital and participation.

Acceptability was assessed by asking the MHSU group to complete evaluation forms after completing the SCOPE. Most (76%) found the domains relevant to their own lives. The main complaint was that the SCOPE was too long and took too much time to complete, which is to be expected, given that the data collection was to facilitate data reduction.

Items that had > 10% missing data or little or no variance, or which overlapped considerably ($r > 0.7$) with other item(s) or which had low factor loadings across all domains were excluded on the basis that they added little to the measure or appeared not to be important components of social inclusion as conceptualised here. On the basis of these analyses, the SCOPE was reduced from 121 to 48 items.

The short SCOPE contained two subjective scales, SatOpps and Perceived Opps, plus objective opportunity and participation items and an overall inclusion rating; at this point SWB ratings were excluded in the interests of brevity and because such measures of life quality can stand alone from social inclusion. The short SCOPE scales retained reasonable internal consistency (between 0.60 and 0.75). Test–retest reliability on a group of students ($n = 119$) demonstrated good stability over short periods of time, with all items highly correlated at both time points. Repeating the discriminant validity tests on the short version demonstrates good discriminant validity between the mental health groups and between people with and without self-reported LLTI. MSP was unable to create scales using the variables in the short version. Acceptability of the short version improved over the long version, with 90% of the sample describing the questions as relevant to them, and 93% feeling that the length was just right.

A second MHSU sample ($n = 40$) completed a baseline SCOPE and 11 people completed a 3-month follow-up SCOPE. Data are continuing to be gathered from the remaining service users.

Conclusions

A short and acceptable instrument with good psychometric properties has been produced in accordance with the protocol to measure subjective and objective aspects of social inclusion. Because the objective questions were taken from existing publicly available surveys, it is possible to compare clinical samples with the general population on the same question coded in the same way.

Further research is needed into sensitivity to change and responsiveness, and into versions for different cultures and in different patient groups. Recommendations for further research are outlined in the report. Some of the potential clinical and research applications are discussed in the SCOPE User Guide version 1.

Suggestions for further research

To our knowledge, the SCOPE is one of very few reliable and valid measures of social inclusion by which to compare mentally unwell and general population groups.

Nevertheless, several research questions remain. The most important question that is being pursued by the research team is to what extent the SCOPE measure is responsive to changes in social inclusion over time, including those brought about by social and clinical interventions in mental health care.

Further testing in relation to other patient groups and larger samples of minority and disadvantaged groups are also required, including those with physical illnesses and disabilities, and specific mental health diagnostic groups.

It is also necessary to explore cultural ideas about the concept of inclusion, and the scope and mechanisms for transference of ideas about the measurement of social inclusion in order to establish how far this measure can travel.

The SCOPE can be used as a research tool in randomised controlled trials and other comparison studies of different social interventions aimed at assessing the clinical effectiveness and cost-effectiveness of that intervention. One important research question might focus on whether the recovery model of mental health care produces favourable outcomes compared with other models of care.

The SCOPE has potential for use as an operational outcome measure with which to assess routine outcomes. More specifically, it is likely that the SCOPE can be a useful tool in terms of measuring the effectiveness of health, social care and policy initiatives relating to personalisation, including self-directed support and personal budgets.

On a wider scale, there is potential for a social inclusion module to be incorporated into UK national surveys, particularly longitudinal and cohort studies, in order to assess the extent to which inclusion changes over time, both among the population as a whole and, more importantly, among disadvantaged groups within society.

Finally, in the interests of conceptual progress, we would suggest a study or studies that would involve applying standard measures of the several related concepts referred to in the background section of this report to a large population sample, across several localities (and countries), in order to examine whether or not latent analysis supports the discreteness of the various constructs. This would also involve multilevel modelling to encompass the issues of individual- and area-level measurement, as well as structural equation modelling to estimate causality between different components of inclusion and related constructs.

Funding

Funding for this study was provided by the Health Technology Assessment programme of the National Institute for Health Research.

Chapter 1

Background

In this chapter the background to the study is outlined, first in terms of the commissioning of the project and then in terms of the concept of social inclusion and its relationship with related constructs. A summary of earlier work that informs this study is presented at the end of this chapter to bring us to the point where this Phase II work began. The chapter includes an update to the literature included in Phase I based on the search strategy used in both phases and presented in *Appendix 1*.

Introduction

This project is the second of a two-phase study involving the development of a social inclusion index to capture subjective and objective life domains. The first phase was conducted by two separate research groups who won financial support in open competition. The two groups then presented the findings of their Phase I work to the commissioning board [of the National Coordinating Centre for Research Methodology (NCCRM) in Birmingham] and the Phase II grant was subsequently awarded to Professor Peter Huxley and his co-applicants.

Conceptual history

Social exclusion and inclusion

Social exclusion is a term that was not widely used in the UK until 1997, when the Labour government established a coordinating policy body called the Social Exclusion Unit,[1] which completed a major study of social exclusion and mental illness[2] among other things.

The socially excluded have been defined as 'Those people who do not have the means, material or otherwise, to participate in social, economic political and cultural life'.[3]

Social exclusion focuses primarily on relational issues – inadequate social participation, lack of social integration and lack of power.[4] According to Berman and Phillips,[5] social exclusion manifests itself at both the national and community level. Inclusion in society is normatively defined, for example as citizenship – having a job, home or financial security according to the norms of society. It also includes being part of, and identifying with, a community. In our heterogeneous society, community may be a more relevant measure of 'inclusion' than a national identity, which may be more amorphous.

Researchers in the poverty tradition in Europe made the distinction between 'poverty', which they define as a lack of resources, and 'exclusion', which is more comprehensive. It has been suggested that social exclusion should be defined in terms of the failure of one or more of the following four systems of '*integration*':

- the democratic and legal system, which promotes civic integration
- the labour market, which promotes economic integration
- the welfare state system, which promotes social integration
- the family and community system, which promotes interpersonal integration.

One's sense of belonging in society depends on all four systems. Civic integration means being an equal citizen in a democratic system. Economic integration means having a job, having a valued economic function, being able to pay your way. Social integration means being able to avail oneself of the social services provided by the state. Interpersonal integration means having family and friends, neighbours and social networks to provide care and companionship and moral support when these are needed. All four systems are therefore important. In a way, the four systems are complementary, in that when one or two are weak the others need to be strong; the worst off are those for whom all systems have failed.[6]

Social exclusion can also be conceived of as a denial, or non-realisation, of citizenship rights: civil, political and social. The four major social systems referred to above should, when working effectively, guarantee full citizenship. Steps towards the creation of social inclusion will therefore involve ensuring that the systems operate effectively, preventing the exclusion of individuals and communities, with full citizenship as the result.

Social inclusion has been defined in the European Union (EU)[7] as 'A process which ensures that those at risk of poverty and social exclusion gain the opportunities and resources necessary to participate fully in economic, social and cultural life and to enjoy a standard of living and well-being that is considered normal in the society in which they live. It ensures that they have greater participation in decision-making which affects their lives and access to their fundamental rights (as defined in the Charter of Fundamental Rights of the European Union)'. The aim of the social inclusion policy in the EU is 'to prevent and eradicate poverty and exclusion and promote the integration and participation of all into economic and social life'.[8] In 2008, Mental Health Europe produced a descriptive report from 27 member states (including Scotland and Ireland, but not England or Wales) on the outcome of its work programme on social inclusion for people with mental health problems.[9]

As part of a literature review examining the links between social exclusion and mental ill health, which was undertaken at the Centre for Analysis of Social Exclusion and the Personal Social Services Research Unit (PSSRU) [London School of Economics (LSE)],[10] one of the authors (TB) identified two broad schools of thought. The first may be called a rights-based approach in which social exclusion reflects the deprivation of rights as a member or a citizen of a particular group, community, society or country. This approach is strongly associated with the international literature on social inclusion.[11] The second approach starts from the assumption that social inclusion is the opportunity to participate in key functions or activities of the society in question. This approach is a development of the traditional concerns of social science and especially social policy: measuring poverty and multiple deprivation.[12,13] *Table 1* combines Commins'[6] forms of integration with these two broad approaches, which, it could be argued, are broadly similar to the concepts of '*demos*' and '*ethnos*'.[5,14,15]

Rights-based conceptions of social inclusion may be particularly important in the context of mental health, as a denial of rights and/or access to the means to realise entitlements has historically been a feature of the treatment of people with mental illness. Conceptions of social

TABLE 1 Rights, participation and integration

Forms of Integration	Rights (*demos*)	Participation (*ethnos*)
Democratic–legal	In law, to be consulted, voting, etc.	Voting, membership, having a say
Labour	To work, withdraw labour, etc.	Work, occupation
Welfare state	To benefits, health insurance, equality of opportunity	Access services
Family–community	Privacy, environmental (noise, nuisance, etc.)	Family and community activity, volunteering

inclusion based on participation are also important, however, especially where comparisons with the general population are sought. Some authors attempt to integrate the two approaches. For example, Room,[4] Abrahamson,[16] Kronauer[17] and Littlewood[18] argue that social exclusion is the reinforcement of accumulated social disadvantages through the denial of civil, social and economic rights. Reimer[19] proposes that social inclusion and exclusion processes are rooted in four types of social relations:

- market (exchange and barter)
- bureaucratic (rational–legal)
- associative (common interest)
- communal (complex reciprocity and shared identity).

As well as there being at least four systems of integration, there are also several levels at which they can be addressed:

- individual level
- family and close networks – perhaps the household level
- local community/local employer/local leisure activity and availability
- government policies and initiatives to promote personal and community integration; responses of wider society.

According to Burchardt *et al.*,[20] there are four aspects of social exclusion:

- consumption, where individuals do not have the capacity to purchase goods and services
- production, where individuals are unable to find employment
- involvement in local and national politics and organisations
- social interaction and family support.

Social inclusion is widely agreed to be:

- relative to a given society (place and time)
- multidimensional (whether those dimensions are conceived in terms of rights or key activities)
- dynamic (because inclusion is a process rather than a state)
- multilayered (in the sense that its causes operate at individual, familial, communal, societal and even global levels).

On the relationship between social inclusion and social exclusion, the point has been made that a person can be included in smaller, closer family or peer groups, yet at the same time excluded from the mainstream, or vice versa.

A further important distinction is between '*risk factors*' for social exclusion and indicators of social exclusion (or inclusion) itself. For example, having a Pakistani or Bangladeshi background, lone parenthood, and chronic ill health are all risk factors for social exclusion but are not sensibly thought of as dimensions of social exclusion itself: they are indicators neither of rights nor of participation.

Critics of the social inclusion concept

Spandler[21] has contested the idea that inclusion is always a desirable entity and has pointed out that the promotion of inclusion assumes that the quality of mainstream society is not only desirable, but also unproblematic. Zissi *et al.*[22] also question whether or not what they call the 'mainstream' notion of social constructs is always beneficial. They found that small rural

communities which were advantaged by having a strong sense of belonging were nevertheless disadvantaged by not having strong external links with civic power agents. Osborne *et al.*[23] found that women with families reported difficulties in combining group involvement with family responsibilities. Stress produced in the process of negotiating social interaction within groups was having a negative impact on their mental well-being.

Social quality

For some people, the concepts of social exclusion and inclusion are still too narrow as a basis for the development of effective local and national social policies.[5] Beck *et al.*[24] have proposed an alternative overarching conceptual framework of *'social quality'*, defined as: 'The extent to which citizens are able to participate in the social and economic life of their communities, under conditions which enhance their well-being and individual potential'.[24]

This concept of 'social quality' is similar to our conception of quality of life (QoL) assessment in mental health,[25] in that it encompasses both objective and subjective interpretations. Social quality has at least four overlapping elements that bear a close resemblance to the life domains of our QoL assessments. They are:

- social–economic security (protection against unemployment, poverty, ill health and other material deprivations)
- social inclusion/exclusion (equal access to supportive infrastructures, labour conditions and collective goods)
- social cohesion/anomie (the availability of social networks, equal access to services)
- empowerment/disempowerment (enabling people to develop their full potential in social economic, political and cultural processes).

Vogel's[26] taxonomy of social quality is virtually the same as the life domains covered by our QoL measures, i.e. health, education, work, income, housing, safety, social attachment, leisure.[25]

Finally, there is considerable debate about the perception of the term 'social inclusion' itself and whether a subjective perception of exclusion is necessary or sufficient to identify an underlying state of social exclusion.[27]

Information about an individual's subjective state is clearly important in any evaluation but especially where low self-esteem, experience of discrimination, and long-term deprivation are prevalent; in these circumstances, individuals' expectations may be so reduced that subjective assessments of well-being should be treated with caution,[28,29] although Evans and Huxley[30] have shown that most of the time deterioration in material well-being is accompanied by a decline in subjective well-being (SWB) and vice versa in general population and mentally disordered groups.

Where counterintuitive findings apply, for instance in those with severe mental illness (SMI), subjects are more likely to make aspirational ratings rather than resigned ones (i.e. where resignation is denoted by high subjective QoL rating, when adverse circumstances are experienced). Lelkes[31] found essentially the same results based on large survey data samples.

Related concepts and their measurement

It may be worthwhile taking some time to examine the question of which other concepts or constructs abut or overlap with social inclusion, and from which concepts it helpfully can be distinguished. Clear candidates on the basis of our concept mapping groups are citizenship, social capital, social participation, social cohesion, social support, community perceptions and QoL. A

number of papers usefully address some of these inter-relationships and there have been some valiant and worthwhile attempts to incorporate them into a single model.[32]

Citizenship

Stewart[33] distinguishes state citizenship from democratic citizenship. Community citizenship refers to the possession by members of a community of a range of social and cultural rights and responsibilities, by virtue of their membership of that community and as a distinct element of their national citizenship rights. Roche[34] suggests that citizenship can be seen as the core of what it is that social exclusion processes exclude people from, and the core of what social inclusion policies promise to include people in. Some writers cast doubt on the emancipatory promise of citizenship in the mental health field,[35] while others argue that citizenship promotes both mental health and participation.[36]

Social cohesion

According to Forrest and Kearns,[37] the domains of social cohesion relate to:

- common values and a civic culture
- social order and control
- social solidarity and reduction in wealth disparities
- social networks and social capital
- place attachment and identity.

Some definitions of social cohesion are close to that of social capital (see next section and also Stanley,[38] who defines social cohesion as the willingness of members of a society to cooperate with each other in order to survive and prosper). Willingness to cooperate means members choose freely to form partnerships and have a reasonable chance of realising goals, because others are willing to cooperate and share the fruits of their endeavours equitably. Freidkin[39] argues that social cohesion is the causal system that determines individuals' membership attitudes and behaviours. Thus, social cohesion is a property of communities and groups, whereas 'being socially included' is an attribute that an individual may or may not have. It has been suggested that good mental health is rooted in social cohesion,[40] and low social cohesion has been shown to be associated with poorer mental health.[41]

Social capital

According to the Health Development Agency[42] the components of social capital relate to:

- participation in the local community
- reciprocity
- feelings of trust and safety
- social connections, power
- community perception.

Nevertheless, community perception is regarded by some as a psychological concept in its own right;[43,44] participation is a key component of social inclusion according to many authors,[29,45] etc.

Forrest and Kearns[37] consider the key components of social capital as:

- empowerment
- participation
- associational activity

- supporting networks and reciprocity
- collective norms and values
- trust
- safety
- belonging.

Only participation and associational activity are widely regarded as social inclusion components.

The most widely cited definitions of social capital come from the Harvard political scientist Robert Putnam,[46] who defines social capital as 'a set of horizontal associations among those who have an effect on a community, and these can take the form of networks of civic engagement' and 'features of social organizations such as networks, norms and truths that facilitate coordination and cooperation for mutual benefit'.

Bourdieu[47] understands social capital to be a process of deliberately constructing sociability in order to acquire the benefits of being part of a group. That is, social networks are not a natural given and must be constructed through investment strategies, which are grounded in the institutionalisation of group relations. The latter are useable as a source of other benefits. Bourdieu[47] suggests that social capital comprises two elements:

- the social relationship that enables individuals to gain access to resources possessed by their associates
- the amount and quality of those resources.

Social capital is a multidimensional concept that encompasses a number of theoretical distinctions. Grootaert and Van Bastelaer[48] suggest that there are two types of social capital: structural and cognitive. Structural social capital facilitates information sharing, and collective action and decision-making through established roles, social networks and other social structures supplemented by rules, procedures and precedents. As such, it is a relatively objective and externally observable construct and relates to the participation element of social inclusion. In contrast, cognitive social capital refers to shared norms, values, trust, attitudes and beliefs. It is therefore a more subjective and intangible concept.

A further distinction is often made between 'bonding', 'bridging' and 'vertical' forms of social capital. Bonding social capital relies on strong ties between people. It is inward focused and characterised by homogeneity, loyalty and exclusivity. Bonding social capital has a significant downside, as a tightly knit homogeneous community might be one intolerant of individual diversity, asphyxiating to live in and exclusionary to outsiders.[49]

Bridging social capital, in contrast, links diverse groups and people. It is characterised by weak ties, has an outward focus and is likely to foster social inclusion. It is commonly recognised that this form of social capital is useful for finding employment.[50] As employment is key to many conceptions of social inclusion,[51] it can often mean the difference between 'inclusion' and 'exclusion' for some people.

'*Vertical*' social capital is often distinguished from '*horizontal*' social capital by virtue of the connections being made within a hierarchical structure to government and other institutions, rather than within and between communities. Vertical social capital provides a community's institutional integration and, together with bridging forms of social capital, equates to an inclusive and cohesive society.[52,53] Moreover, socially cohesive societies high in social capital are more likely to achieve the twin virtues of sustainable economies and human development, according to Stanley.[54] Thus, high social capital is likely to be associated with greater chances

of social inclusion, but is not sufficient to achieve social inclusion. Social inclusion refers to a broader range of domains, including for example realisation of rights, labour market integration, and so on. Araya *et al.*[55] provide some evidence in support of an association between mental health and individual perceptions of social capital.

Social support

It has been said that the measures of social support are as varied as the number of investigators. Veiel and Baumann[56] created a useful conceptual framework in which they distinguished everyday support from crisis support, instrumental support from psychological support, and subjective from objective appraisals of support. Numerous support measures have been reported; mainly in the fields of psychology and social psychology.[56,57] Social support concepts and measures have developed in three different strands:

- the extent to which individuals are attached to significant others as measured by their social ties, participation in organisations, contact with friends and family and/or the complexity of their social network (e.g. social embeddedness)
- the individual's cognitive appraisal (e.g. perceived social support) of the availability and adequacy of support irrespective of the extent of the support
- the responses of others in the provision of emotional support, information, tangible care or material assistance.[58]

So, as for social capital, social support is an important facilitator of social inclusion, but may not be sufficient to achieve it.

Social participation

There are a number of ways to define and measure social participation. There was considerable interest in measuring participation in 1950s USA.[59–62] Earlier Chapin[63–65] developed a brief scale of participation, which really amounted to a measure of organisational membership. Parker's[66] elaboration of Chapin's work was also confined to activities (committee or informal) within formal voluntary organisations, rather than any other type of participation, and this approach is probably rather limiting in the current context.

Of all the other concepts, social participation is perhaps the closest to social inclusion, as most concepts of inclusion incorporate it as a key component. Larivière[67] reviewed 77 measures of participation and concluded that there was a consensus that social participation is the realisation of activities. The most often used indicators include amount and frequency of activities. Van Brakel *et al.*[68] developed the social participation scale that we had planned to use in the present study, until we found a more acceptable and well-validated measure developed by Berry *et al.*[69,70]

Although social participation has been shown to be related to positive mental health,[71] adverse consequences of participation, particularly for women, could be a possibility. Osborne *et al.*[23] found that participation can reinforce gender inequality and have a potentially negative impact on women's mental health.

Social networks

Social networks have been defined as the web of social relationships that surround an individual and the characteristics of those ties.[72–75] Burt[76] has defined network models as describing 'the structure of one or more networks of relations within a system of actors'.[76] Network characteristics cover:

- range or size (number of network members)
- density (the extent to which the members are connected to each other)

- boundedness (the degree to which they are defined on the basis of traditional group structures such as kin, work, neighbourhood)
- homogeneity (the extent to which individuals are similar to each other in a network).

Related to network structure, characteristics of individual ties include:

- frequency of contact (number of face-to-face contacts and/or contacts by phone or mail)
- multiplexity (the number of types of transactions).

Social support can affect a person's health through different pathways: health behavioural, psychological and physiological pathways.[77]

Eklund and Hansson[78] argue that there is a reciprocal relationship between the social network and QoL of people with mental health problems. Social networks, as with social support and social capital, help to promote social inclusion but, in the absence of other mechanisms, are unlikely to be sufficient to attain social inclusion.

Quality of life

The Bristol Social Exclusion Matrix[45] measure incorporates a section on QoL that includes such things as self-esteem and personal efficacy, personal development, etc. We would regard these rather as psychological or cognitive outcome indicators, improvement in which might be the target for service providers and service users. Generally, these are not accepted components of QoL measures, which are often health related and used as disease-specific treatment outcome indicators; generic QoL measures usually cover material or objective circumstances and SWB in very similar life domains to those identified in the social inclusion and exclusion literature. Berger-Schmitt and Noll[32] incorporate QoL into their overarching model as the ultimate objective for social policies, including inclusion policies. We find their model coherent and appealing. So, social inclusion can be seen as a major contributory factor to an improved QoL in both individual life domains and QoL overall, with the caveat that for some people in some circumstances their conscious choice to exclude themselves could enhance their subjective QoL in a particular domain. The QoL of people with mental health problems has been extensively researched.[25,79]

Well-being

In recent years, there has been a shift from a predominant concern with mental illness to an interest in the mental health and well-being of the whole population – public mental health. The World Health Organization[80] has declared positive mental health to be the 'foundation for well-being and effective functioning for both the individual and the community' and defined it as a state 'which allows individuals to realise their abilities, cope with the normal stresses of life, work productively and fruitfully, and make a contribution to their community'. This has been accompanied by a growing interest in developing indicators to measure different dimensions of positive mental health, to accompany indicators of psychiatric morbidity.[81] Affectometer 2 has been identified as a promising scale;[81–84] and has been included in the Health Education Population Survey (HEPS) in Scotland. Affectometer 2 has been psychometrically validated in the UK, and a revised, shortened scale – the Warwick–Edinburgh Mental Well-being Scale (WEMWBS) – has been developed to better assess population positive mental health.[85] In the USA, Keyes[86] confirmed that social integration, social coherence, social contribution, actualisation and social acceptance are the key components of social well-being. Well-being is found in this study to be an achievement facilitated by age and educational attainment. Like QoL, social inclusion should contribute to well-being, but is subject to the same caveat that, for some, being able to refuse inclusion may promote well-being. In principle, someone could be 'well' in the sense of having positive mental health, but nevertheless be socially excluded. Inclusion

implies something positive about the relationship between the individual and society, while well-being is about the individual in him/herself. Wilhelm *et al.*[87] have recently called for a more precise operational definition of mental well-being.

Social inclusion

A review of the social inclusion literature[88] led to the development of a framework to guide the selection of items and measures for a survey of social inclusion in northern Adelaide. It concluded that a broad suite of indices would be required to capture all of the relevant aspects of inclusion.

Morgan *et al.*[89] reviewed the literature on social exclusion at the same time as our Phase I study reviewed the literature on social inclusion. Both found that there was no single accepted definition of either concept, and that social participation (or the lack of it) was one of the core components. Both distinguished the social indicator approach from the individual subjective appraisal approach. Although it was suggested that measurement of social exclusion in the mental health literature was poor,[89] our Phase I work went on to explore the dimensions of the concept of social inclusion in different social and patient groups before developing the present measure.

There is a relative dearth of research looking at the relationship between structural and subjective indicators of inclusion compared with the volume of publications and level of interest in the relationship between these variables and health status. The same is true of the literature on social capital. In some cases the argument is made for the exclusive use of the subjective approach,[90] but in most cases the use of both subjective and objective indicators is advocated (Phase I report and commissioning brief).

An important consideration is the nature of the research design being used, and in particular the need to avoid the 'ecological fallacy'. A considerable number of published projects use cross-sectional designs in which the subjective inclusion data come from individuals, but the contextual or structural variables come from aggregate social survey data, which are sometimes used to characterise descriptively the society from within which the individual respondents are drawn. As the health data also normally come from the individual, there is the possibility that the health and individual inclusion data are subject to information/reporting bias. For example, one such study found no relationship between contextual factors such as aggregate social trust and civic participation and subjective health measures when sociodemographic factors were controlled.[91] Nevertheless, the same study found that data about trusting and socially active individuals were associated with the same individual's reporting of good health (in countries with high levels of social capital).

When considering these relationships in mentally unwell people there is also the possibility that the symptoms affect both inclusion as well as health status variables, producing a spuriously inflated positive or negative relationship.

In our approach to this issue we have used the same indicator questions (from surveys) but reported by the individual; we would, therefore, expect a somewhat more substantial relationship between O (contextual) and S (subjective) variables in our study than in studies using subjective data derived from individuals and contextual data derived from structural indicators.

Our updated literature search found considerably more work being undertaken on social capital than on social inclusion. This might be related to the newness of the concept compared with social inclusion, and to the promise of being able to account for health status and perhaps develop interventions (collective or individual) to improve health status. It is worth pointing out that social participation is of importance in both social capital and social inclusion, so

the definitional problems involved in both may mean that some aspects of social inclusion are studied in social capital research and vice versa, depending of course on the particular definitions used. For example, in a study of social capital[92] eight separate aspects were identified in a literature search and the first four of these were described as aspects of structural social capital, but are often used in measuring aspects of social inclusion and participation: 'The first four capture structural aspects of social capital (contact with local family – referred to as family ties; contact with local friends – friendship ties; associational membership; and integration into the wider community operationalised by having social networks outside as well as inside the local area)'.

Clinical practitioners and health service researchers probably have a considerable interest in social participation, as this is likely to be a key component of recovery and rehabilitation, especially in the mental health field. In fact, there is evidence in the more recent literature that clinically based researchers are indeed focusing on social inclusion and participation, rather than social capital.[93–99]

Social capital

A review of definitions of social capital within social psychiatry[100] found that definitions are intertwined with the scales used to measure it, and that there was little consistency between studies in the literature. The review suggested that 'it is clear that social capital is not synonymous with (although it may well embrace and indeed be manifested by) social participation, social integration, social cohesion, and/or social support individuals can access or be barred from on account of their membership in groups and/or formal and informal institution.

The author concluded that research on social capital focused on two main types of social capital: bonding (between individuals in a group) and bridging (between groups). Each type of social capital has cognitive and/or structural component(s) and may operate at micro and/or macro level(s).

Patulny and Svendsen[101] advanced a framework based on the distinction between bridging and bonding capital and qualitative and quantitative methods. Derose and Varda[102] reviewed over 2000 abstracts and found that 21 examined some measure of social capital. As others reported previously,[100] they found a lack of congruence in how it was measured and interpreted. This made understanding and explaining the relationship with health status problematic. They argued for the separate use of the concepts of bonding, bridging, and linking social capital,[103] and for further research into cognitive, behavioural and structural dimensions.

The following are all cross-sectional studies and are therefore subject to some limitations. De Silva *et al.*[104] used multilevel modelling to examine the impact of individual- and community-level social capital and common mental disorder (CMD) in women in four countries. They found that individual social capital is related to a reduced likelihood of having a CMD but that lower structural social capital increased the likelihood, although not consistently in all locations. A similar finding of an absence of a relationship between structural social capital (organisational membership) and health and well-being has been observed in China.[105]

d'Hombres *et al.*[106] also found that individual levels of trust are positively and significantly related to health, and that social isolation has a negative effect on health. In contrast, organisational membership (contextual) was found to be unrelated to health. Higher subjective levels of trust and feelings of safety have been found to be associated with better mental health.[107]

Irwin *et al.*[108] found that in the most resource-poor populations, social capital added to the explanation of depressive symptomatology beyond that explained by social support alone.

Stafford *et al.*[92] tested stress buffering and main effects models in data from 9000 respondents, and found no main effect of social capital on CMDs. Attachment to the neighbourhood was associated with higher reporting of CMD, and contact with friends was associated with lower reporting of CMD, but these findings were confined to deprived areas only. An association between social capital, neighbourhood deprivation and hospital admission was observed in a cohort study in Sweden.[103]

Others have found that individual measures of social capital, such as trust and reciprocity, are related to poor health status and health-related QoL.[109]

Cultural issues in the measurement of social inclusion and social capital

A number of studies have found that social capital and social inclusion results differ in different communities, for example rural and urban communities,[22,110] and in different cultures.[104,105,111–113] In an interesting cross-cultural study of social capital using the Short Adapted Social Capital Assessment Tool (SASCAT), De Silva *et al.*[104] argued that traditional psychometric testing is not sufficient to adequately validate multifaceted social capital tools for use in different cultural settings. The SASCAT has good psychometric properties, but interviews with respondents found that they did not always interpret the questions correctly, or at least in the way intended by the interviewer. We would expect the same issues to arise in the use of social inclusion measures in different cultures. The most culturally diverse of our focus groups in Phase I did not produce material about social inclusion that was radically or even marginally different from the dimensions identified by the other groups. The SASCAT was successfully modified to increase the validity of its use in different cultures, and we would expect the same work to be needed to demonstrate the cross-cultural validity of our measure and other measures of social inclusion.

Measures of social capital

A number of new measures of social capital have been developed since our Phase I review in 2005.[104,112–117] Nevertheless, because our interest is in the measurement of social inclusion we have not explored these in more detail.

Measures of social inclusion

A measure of social inclusion was developed for use in the evaluation of community-based arts for mental health projects in the UK.[93] Three scales were constructed measuring social acceptance, social isolation and social relations; these had good internal consistency, as did the measure as a whole. Correlations with empowerment and a mental health measure were described as 'reasonable'. The measure is acceptable but test–retest reliability and construct validity have not been demonstrated.

Two small-scale samples of individuals from a psychiatric rehabilitation setting (total number = 54) were interviewed with a view to assessing the reliability of a composite measure of social inclusion.[93] The interview covered sociodemographics, domain-specific socially valued role functioning, social support, community integration and the experience of stigma. Test–retest and internal consistency results were promising, but some items with low test–retest reliability were removed from the stigma and community integration subscales. The sample came from one small psychosocial rehabilitation service and the sample was largely male (80%), which reduces the generalisability of these findings somewhat.

Social participation measures[68,118] were covered in the original review and there have been only two new measures published since.[71,95] Both of these measures have been used on limited patient populations and neither has been conclusively tested in terms of psychometrics, acceptability, construct validity or responsiveness.

We therefore find ourselves in a similar position as we were in at the start of the present project, with no established measure of social inclusion available for use in the general population or community mental health service settings.

Summary of the Phase I findings

In order to develop ideas that are relevant to service users, professionals and others, we set up nine focus groups to explore what people understand by the term 'social inclusion' (*Table 2*). We thought it was most important to have several different kinds of opportunities for people receiving mental health services to be involved, as well as mental health professionals, service managers, and academics with a research interest in this field. We also thought that it was important to cover the whole age range and so we included a group of students, adults of working age, and also people aged > 65 years who remain entitled to work if they so wish. Perhaps most importantly, we felt that we wanted to include a group representing the general public, made up of people with no interest in mental health services at all. This would help us to assess the extent to which the groups involving professionals and service users differed, if at all, from the general population in their understanding of the term social inclusion.

Concept mapping

The method we used in the group was *concept mapping*, which is useful when you want to explore the meaning of a concept to participants. Concept maps were developed in the 1970s in the course of Novak's research programme, at Cornell University,[119] where he sought to follow and understand changes in children's knowledge of science. During the course of this study, researchers interviewed many children, but found it difficult to identify specific changes in the children's understanding of science concepts by examination of interview transcripts. Out of the

TABLE 2 The composition of the groups

Group (no. of participants)	Description
1 (7)	Staff members of a mental health research group, including administrative staff, a professor, research assistants, research fellows, senior researchers and a trainee psychologist
2 (12)	The NIMHE Social Inclusion Network group was invited to participate. This was the largest group with participants from various mental health professional and user organisations
3 (10)	First-year generic social work students at the beginning of their academic year
4 (10)	A local authority-led multidisciplinary working group, which focuses primarily on mental health, employment and social inclusion. This included representatives from the health sector, voluntary sector and the local authority
5 (7)	Staff and volunteers from a women's forum, a voluntary organisation that offers advice, counselling and housing support to women in crisis
6 (5)	Staff from two organisations: an Age Concern group and a black and minority ethnic cultural community group
7 (5)	Participants who attended an Age Concern drop-in centre
8 (6)	A 'general population' group obtained via a snowball sample
9 (4)	A mental health user and carer group comprised three users and one carer from a social inclusion forum led by the social services of a city council

NIMHE, National Institute of Mental Health England.

necessity to find a better way to represent children's conceptual understanding emerged the idea of representing children's knowledge in the form of a concept map.

Concept mapping is a type of structured conceptualisation that can be used by groups to develop a conceptual framework that can guide evaluation or planning. A good way to define the context for a concept map is to construct a *focus question*, i.e. a question that clearly specifies the problem or issue the concept map should have to resolve. Every concept map responds to a focus question, and a good focus question can lead to a much richer concept map. In the typical case, six steps are involved:

1. preparation (including selection of participants and development of focus for the conceptualisation)
2. the generation of statements
3. the structuring of statements
4. the representation of statements in the form of a concept map (using multidimensional scaling and cluster analysis)
5. the interpretation of maps
6. the utilisation of maps.

Concept mapping encourages the group to stay on task, results relatively quickly in an interpretable conceptual framework, and expresses this framework entirely in the language of the participants. It also yields a graphic or pictorial product, which simultaneously shows all major ideas and their inter-relationships.

In our concept mapping process, each participant was given a batch of yellow Post-it® notes (3M, St. Paul, MN, USA) and asked to write on three of them what the term 'social inclusion' meant to them. When these were completed, someone stuck their Post-it notes on to a flipchart and then others followed suit, placing ones that seemed related closer together. Opportunities were then provided to discuss the 'map' and reorder it, if required, through group discussion. The resulting concept maps were all recorded and photographed by the research staff, who subsequently produced nine different 'maps'. Details of the maps are given in the final report of Phase I.[120] A summary is provided below to explain the major features.

- The first-year university social work students emphasised people's rights to access facilities and material goods.
- The general public group, while mentioning some positive aspects of inclusion, made the greatest number of negative remarks about excluded groups of people.
- The mental health/social inclusion group emphasised the difference between individual inclusion and social inclusion.
- The women's group had a dynamic view of inclusion and exclusion in which any one person was constantly moving between the two.
- The mental health academic group stressed the importance of material inclusion, but was also one of the groups that pointed out the rhetorical nature of much of the government portrayal of inclusion.
- The older people recognised that the nature of inclusion changed over time and between generations.
- The mental health service users (MHSUs) in the groups tended to focus on difficulties of accessing mental health services and on their experience of being excluded by the wider society.

Although there were differences in the emphasis placed on aspects of inclusion, there was a great deal of commonality in the domains of inclusion/exclusion, and these were not dissimilar to

the domains of generic QoL measures. There was also a broad measure of agreement that social inclusion includes both objective and subjective aspects, and that even if objectively included one can still feel excluded, and if objectively one is excluded – say in the work domain – by not having employment or meaningful activity, one can still feel included within one's community or family.

Social inclusion is therefore clearly multidimensional and almost certainly dynamic, i.e. subject to change over time. It should therefore be possible to reach agreement on the content of an inclusion measure, with subjective and objective ratings within each domain.

Nevertheless, it was also clear from the results of this exercise that one has to take account of the location of the person within society, given that opportunities to participate and to be included vary by location and social group. It will therefore be necessary to assess the availability of opportunities in the social communities of which the person is a part. For clinical, operational or service use, it is also worth noting the extent to which each individual wants to alter their level of inclusion. It does not follow that all of us, most of the time, want to be more included.[70] There are times when, in most life domains, one wishes to moderate one's level of inclusion, say, for example, in terms of contact with one's extended family. Pressure to conform was identified as an issue for several of the groups.

On the basis of the statements generated by the groups we produced an overarching model (*Figure 1*) using NVIVO version 8 (QSR International, Doncaster, VIC, Australia). The model retains the split between objective and subjective factors, recognises individual differences, and shows how opportunities and choices relate to material domains. These factors, along with personal feelings about inclusion, result in participation and engagement.

If we unpack the model a little further we see that material factors relate to having work, education and adequate health and housing, along with a group of financial factors (*Figure 2*).

Negative feelings of exclusion (*Figure 3*) relate to issues around disadvantage, barriers and stigma, which can heighten feelings of loneliness and isolation, but there is also pressure to conform.

Positive feelings of inclusion (*Figure 4*) relate to acceptance, being valued, having a sense of purpose, achievement and belonging, while celebrating diversity; this promotes acceptance and inclusion.

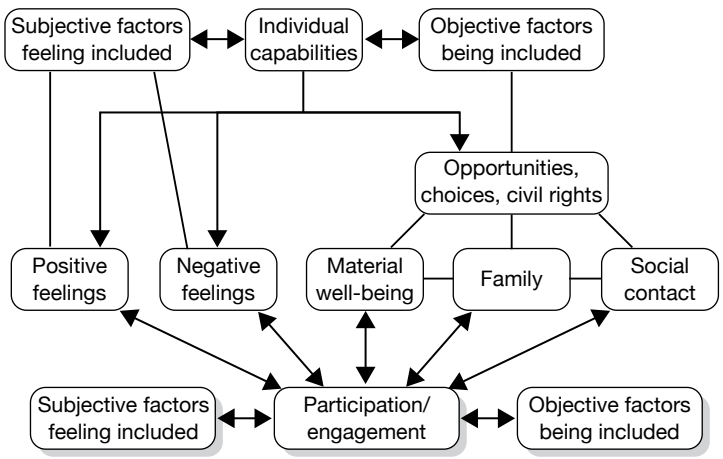

FIGURE 1 The model.

Based on the concept mapping exercises, we developed a matrix of social inclusion that incorporated the domains identified by the groups. This is presented in *Table 3*. Within each domain, opportunities will be enabled or constrained by availability and the ability to access that which is available. Each individual will have a view about the perceived availability of opportunities for inclusion and will be able to report on the extent to which they are able to avail themselves of these opportunities. They will then have a view about whether their participation or access has been of benefit to them, and finally they will be able to express a view about whether they wish for more or fewer opportunities to participate or to be included. One needs to recognise that the extent to which individuals participate is a personal decision and that for some people choosing to participate less can be the preferred option. An increase in feelings of inclusion can therefore occur even when participation is in decline.

This was our view at the conclusion of Phase I. Phase II involves the production of a measure with which to test these ideas empirically.

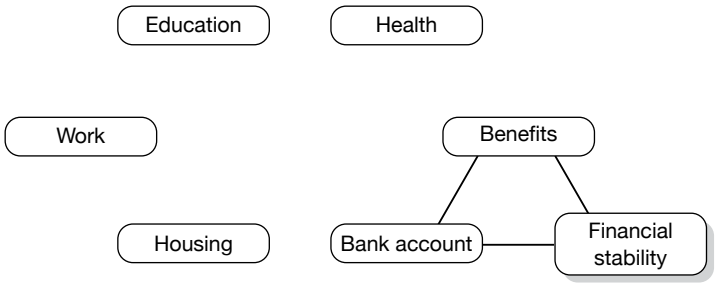

FIGURE 2 Material circumstances.

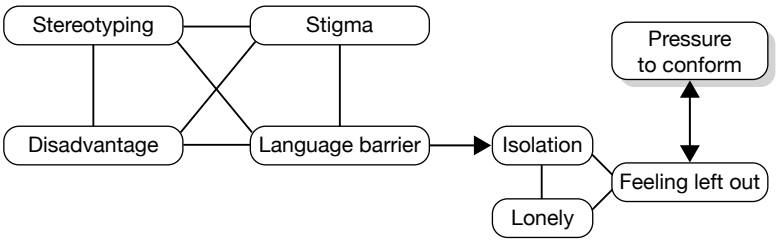

FIGURE 3 Negative feelings of exclusion.

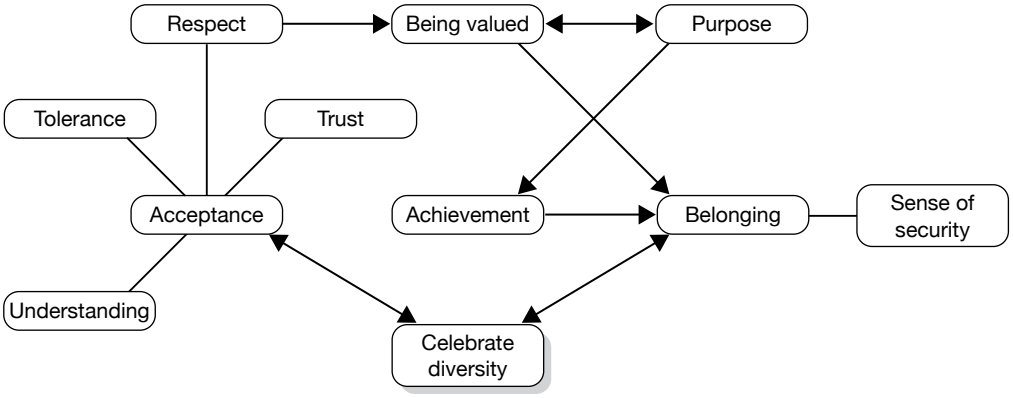

FIGURE 4 Positive feelings of inclusion.

TABLE 3 Social inclusion matrix

Domain content	Opportunity of access to material resources/ existence of rights	Perceived access to resources/perceived entitlement	Participation/actual realisation of rights	Perceived participation/ perceived realisation of rights	Choice/ improved or changed entitlements
Family activity	Family exists and participation possible	Perceived adequacy	Actual level of contact	Benefit/value	More/less Same/different
Social activity	Opportunity exists for social participation	Perceived adequacy	Actual social contacts	Benefit/value	More/less Same/different
Work	Economically active	Perceived availability	Level of activity	Benefit/value	More/less Same/different
Income	Has income	Perceived adequacy	Level of income	Benefit/value	More/less Same/different
Political and civic	Access to voluntary or civic opportunities	Perceived adequacy	Level of participation	Benefit/value	More/less Same/different
Community facilities	Community facilities exist and can access	Perceived adequacy	Use of facilities	Benefit/value	More/less Same/different
Financial services	Access to financial services	Perceived adequacy	Use of services	Benefit/value	More/less Same/different
Neighbourhood safety	Access to neighbourhood	Perceived adequacy	Actual activity levels	Benefit/value	More/less Same/different
Housing quality	Access to adequate housing	Perceived adequacy	Actual quality	Benefit/value	More/less Same/different
Transport	Actual availability and accessibility	Perceived availability	Actual level of use	Benefit/value	More/less Same/different
Leisure activities	Access to range of leisure activities	Perceived availability	Actual use	Benefit/value	More/less Same/different
Mental health	Access to mental health care	Perceived availability	Actual use	Benefit/value	More/less Same/different
Physical health	Access to physical health care	Perceived availability	Actual use	Benefit/value	More/less Same/different
Educational attainment	Access to educational opportunities	Perceived availability	Actual use	Benefit/value	More/less Same/different

Chapter 2

Methods

In this chapter the aims of the study are outlined and the methods relating to the four core components are described.

Aims and objectives

Informed by the findings of Phase I of this study, the overall aim of the second phase is to develop an indicator of social inclusion:

- for use in general population settings, mental health service research, and in routine outcome measurement in mental health services, which:
  - reflects the views of people with mental health problems, their carers, professionals in the field and the general population
  - is valid, reliable and responsive.

This phase of the study focuses on the further development and testing of a comprehensive social inclusion index that is suitable for use in both general population and mental health services research and routine outcomes measurement. The study objectives are to produce a robust measure of social inclusion that:

- is multidimensional and captures multiple life domains
- incorporates objective and subjective indicators of inclusion
- has sound psychometric properties, including responsiveness
- facilitates benchmark comparisons with normative general population and mental health samples, including CMD and SMI groups
- can be used appropriately with people with mental health problems receiving and not receiving support from mental health services
- can be used across a range of community service settings.

Method

The second phase of the study consisted of four core components (involving six distinct tasks):

- development and pre-testing of a draft instrument to check appropriateness and acceptability
- instrument modification based on evaluation, participant experience and previous research, followed by application in a community survey and other settings to generate data for component 3
- psychometric evaluation, data reduction and psychometric testing, to produce a short version of the instrument
- final field testing in a clinical setting and beta testing in other services, using the short version.

These distinct components of the study are described in detail as follows and summarised in *Figure 5*.

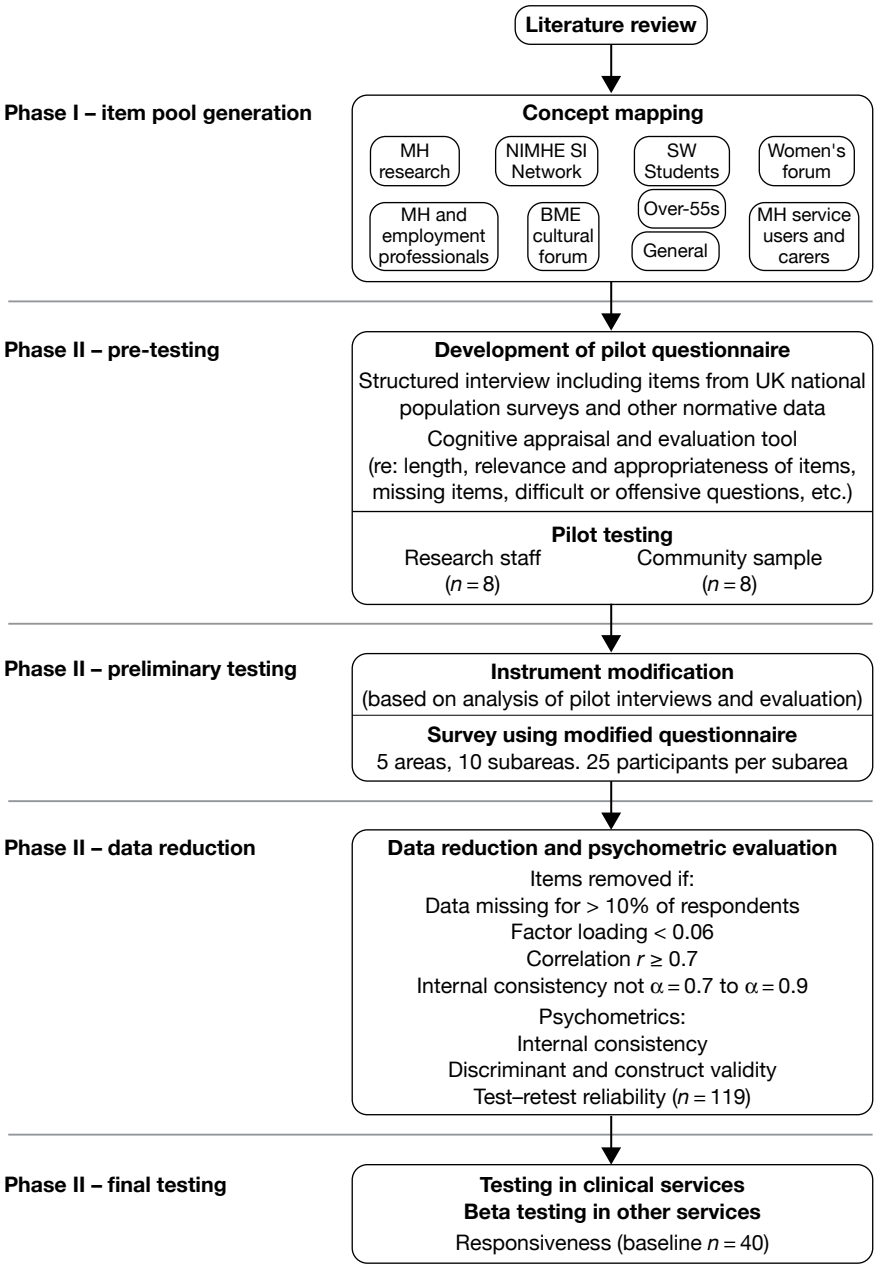

FIGURE 5 Key methodological components. National Institute of Mental Health England. BME, black and minority ethnic; MH, mental health; SI, social inclusion; SW, social work.

Instrument development and pilot testing

The first component of the study focused on the determination of appropriate questions to populate the domains highlighted in *Table 3*, as identified in the Phase I study, and which corresponded with the domains identified by others.[26,32,45]

In order to comply with the objective of facilitating normative comparisons, our search for questions focused on UK national surveys of the general population and other sources of normative data.

All of the surveys listed in the Centre for Applied Social Surveys (CASS) Question Bank[121] [known as Surveys Question Bank (SQB)] and UK Data Archive[122] were searched for suitable

objective and subjective questions to populate each of the domains identified in Phase I. Full details of the databases searched and the questions selected are given in *Appendix 2*. Where there was more than one candidate question, the research team discussed the merits of each question and made a decision on the basis of the clarity of the wording, accessibility of the question's source survey data, and whether the source permitted the downloading of individual-level data (which was uncommon) or disaggregation of the results to a local service area level (local authority or ward, which was more common), as this would facilitate general population comparisons within specific localities.

A draft questionnaire, which included fixed-response and free-text questions structured by domain, was prepared by the research team. The questionnaire was cognitively appraised prior to piloting, by research team members and co-applicants (one of whom is a specialist in the field of social exclusion and mental illness), and by experts in survey design based at Opinion Research Services (ORS), the organisation tasked with survey data collection. An example of feedback from this process is provided in *Appendix 3*. In addition, the research team met with the ORS staff on several occasions to amend the wording and routing of the draft instrument. An example of amendments made at one of the meetings is included in *Appendix 4*.

In order to check ease of understanding, appropriateness and acceptability, the draft instrument was then pre-tested in a small random sample of the general population in a south Wales city, interviewed by ORS staff ($n = 8$), and a convenience sample of eight social researchers based in the host institution for this grant. Questions were considered individually and as part of the whole measure. Mechanical issues such as question order, routing and filter questions were tested, and, where necessary, adjustments were made. Ambiguous wording and unclear or misleading questions were identified and adjusted. Questions that were likely to have a low response rate, for example questions on personal finances, were adjusted and prompts added in some instances in order to encourage a response. For example, instead of solely asking 'What is your personal income before tax?', the question is followed by a prompt, to enable respondents to locate their income within bands for weekly, monthly or annual amounts. This component of the study was completed over a 6-month period.

Instrument modification and preliminary testing

This component of the study involved modifying the draft instrument on the basis of results generated in the pilot exercise and using this amended version of the Social and Community Opportunities Profile (SCOPE) (referred to subsequently as the SCOPE 'long' version) in a community survey, in order to generate data for data reduction and psychometric analyses.

Sampling

A general population sample was generated using random preselection from postal address files for five chosen locations to identify households in the first instance. The locations included a south Wales county borough, an inner south-east London borough, a unitary authority and city area in the East Riding of Yorkshire, a university and county town in south-east England, and a low-lying county and city area in the east of England. Fifty households from each location were included in the sample, giving a target sample size of 250. Each area contained two subareas in order to achieve a good urban–rural balance of and prosperous and less prosperous communities. According to the sampling structure there would be 25 participants in each of the 10 subareas.

Participants from within sampled households were identified from details provided by one household member (the person answering the door when visited) about all people aged ≥ 18 years within the household. These details were entered into a Kish grid[123] and one household member was then randomly selected from the grid for interview. Kish grids are used widely in survey research, as the system provides a simple but robust means of interviewee selection that gives

all individuals in a household an equal chance of being selected. Its major difficulty is that the individual who supplies the household listing is often not the one to be interviewed.[123,124]

Survey method

Sampling procedures, data collection and data cleaning were all outsourced to ORS, the independent survey organisation selected to undertake this work, because of its known high standard for fieldwork services. Data were collected in interviews undertaken by trained and experienced social research interviewers, who were employed directly by ORS, using a computer-assisted personal interview system. Interviewers made up to three visits to each selected household – at different times of the day (including evenings), and on different days of the week, in order to maximise the penetration rate. Interviews were conducted in the participants' homes and took no longer than 60 minutes to complete. Interviewees were offered an incentive to participate, in the form of a £10 multistore shopping voucher. Completion of the interview served as an indicator of consent.

A further convenience sample of MHSUs was drawn from people accessing the services of Hafal (a support organisation for those affected by severe mental illness), the Wales-based arm of Rethink, which works with individuals recovering from SMI; these respondents formed the MHSU group. The MHSU group self-completed the SCOPE as well as an evaluation form to assess its acceptability and utility. Following discussion with Hafal, MHSUs were offered library resources as an incentive to participate, as payment or payment in kind could impact on taxation of income or benefit claims.

Measures

The SCOPE long version included 121 questions (four of which were demographic profiling questions), covering eight specific domains of inclusion, as well as general inclusion. The domains related to leisure and participation, housing and accommodation, safety, work, financial situation, self-reported health, education, and family and social relationships. Each domain included fixed-response objective and subjective items relating to the availability of, personal access to, and participation in, various activities deemed as indicators of social inclusion in accordance with the matrix presented in *Table 3*. Each domain also included free-response questions relating to ways in which the individual might wish to change the way they were included in society through participation in certain activities. Subjective indicators of availability were rated on a five-point scale, on which '1' indicates plentiful opportunities and '5' indicates that opportunities are extremely restricted. Other subjective ratings were made on the seven-point delighted–terrible scale developed originally by Andrews and Withey,[125] on which a score of '1' equates to feeling terrible and scores of '7' equates to feeling delighted.

In the absence of a gold standard measure of social inclusion to assess criterion validity, two measures of the most closely related concepts – social capital and participation – were included in the survey in order to assess construct validity in relation to concordance and discordance with these measures.

The Resource Generator-United Kingdom (RG-UK)[114] is reliable and is the best-validated measure in the UK of access to social resources within social networks, a form of social capital that corresponds more closely to the Bourdieu[47] definition than to the Putnam[46] tradition. The RG-UK includes 27 binary rated items, 13 of which relate to access to someone with certain skills or attributes and 14 that relate to knowing someone who would provide specific types of assistance or advice; it also includes details of the relationship with this person, for example a friend, family, neighbour, but this is not used in the development of the scales. The items can be

summed to produce an overall scale, and four subscales relating to domestic resources (seven items), expert advice (nine items), personal skills (six items) and problem-solving resources (five items). Only the overall scale is used in this study.

On the basis of Phase I findings we had intended to include the Van Brakel *et al.* participation measure[68] as another test of construct validity. Nevertheless, another measure[69] was published in the interim period, which we considered even more suitable, because it is shorter, less complex and also well validated. The Berry *et al.*[69] community participation measure includes 15 items covering seven domains (known as the 'Big Seven'), relating to regularity of contact with the immediate household, extended family, friends and neighbours, engagement in religious observance and organised community activities, and interest in current affairs. Each item is measured on a seven-point scale, on which a score of '1' indicates never or almost never engaging and a score of '7' indicates always or almost always engaging in activities. An overall participation scale is calculated as the *sum* of the 15 items, on which the minimum possible score is 15 and the maximum possible is 105.

Finally, for purposes of discriminant validity between CMD and mentally healthy community (MHC) groups the five-item mental health index of the UK Short Form questionnaire-36 items (SF-36) was also included.[126] This multiple choice scale enables respondents to give self-evaluations of their current mental health status, and is useful for screening for anxiety and depression. The scores for each item range from 1 to 6, which for two items are reversed so that lower scores indicate higher levels of mental distress on all items. A total mental health score is computed as the sum of all items, on which the minimum possible score is 5 and the maximum possible is 30.

Data analysis

Data preparation

Data were prepared and analysed using SPSS version 16 (Statistical Package for the Social Sciences; SPSS Inc., Chicago, IL, USA). Mokken scaling for polytomous items (MSP) analyses were undertaken.[127]

The distribution of continuous variables was checked and the influence of skewness in dependent variables [e.g. the Mental Health Index five items (MHI-5) mental health score – see *Figure 6*] was reduced by applying transformations or non-parametric techniques, such as bootstrapping. Significant skew was determined using the formula: skewness/standard error of skewness > 1.96. Values falling outside this range are significantly skewed.

The influence of outliers (i.e. cases with values well above or below those for other cases) was checked where appropriate, using scatterplots, histograms and/or box-plots. Influential outliers were either changed (e.g. replaced with the mean for all cases) or removed from future analyses.

Statistically significant effects were defined by p-values ≤ 0.05. In accordance with statistical advice and convention, p-values in the range 0.000–0.01 are reported as < 0.001, < 0.005 and < 0.01. For ease of interpretation, values in the range 0.011–0.05 and 0.051–0.10 (non-significant) are specified, whereas non-significant p-values > 0.10 are reported as not significant (NS). Adjustments for multiple significance testing of various aspects of social inclusion [i.e. perceived opportunities (Perceived Opps), satisfaction with opportunities (SatOpps), overall inclusion] were made, as appropriate, using the Simes procedure,[128] a modified Bonferroni procedure that has greater power than the original to detect real differences. The Simes adjustment produces values that are less conservative than the originals by comparing unadjusted p-values (that are listed in order of highest to lowest statistical significance) with adjusted values that take account of the number of outcomes and a target p-value ($p < 0.05$). For example, the most significant

result (e.g. position 1 original $p = 0.001$) of an analysis including three outcomes would be tested as follows: test $p = 1/3 \times 0.05$, and declared a significant outcome if original $p \leq$ test p (e.g. 0.001 compared with 0.016).

Data reduction

Descriptive statistics were used for purposes of data reduction. The frequency of responses on each questionnaire item was used to identify questions that might be subject to large amounts of missing data or to a lack of variance between response categories. Items that had > 10% missing responses or a response endorsed by > 90% or < 10% of respondents were removed, unless responses differed in the three mental health status groups; any between-group differences were identified in cross-tabulations using chi-squared statistics, or Fisher's exact probability statistics where the assumption of a minimum expected frequency of 5 was violated.

The degree of overlap between related items was determined using Pearson's or Spearman's rho correlation coefficients as appropriate, and items that were correlated at $r > 0.7$ were considered candidates for removal. Decisions about which of the highly correlated variables should be removed were made as a research group on the basis of item clarity, relevance and level of measurement.

Within- and cross-domain principal components analysis with Varimax rotation was undertaken in order to identify questions that failed to load on to key factors or had factor loadings of < 0.6 latent traits of social inclusion. These variables were excluded from the questionnaire on the basis that they added little to the measurement of, or were unrelated to, the underlying traits of social inclusion. Decisions about the retention or rejection of factors were based on Horn's parallel analysis.[129] This approach compares the eigenvalues of the data set with a randomly generated data set of the same size, produced using the Monte Carlo principal component analysis (PCA) for parallel analysis program.[130] Components with PCA eigenvalues that were lower than the parallel analysis eigenvalues were rejected. The suitability of the data for factor analysis was assessed using Bartlett's test of sphericity (which should be significant at $p < 0.05$) and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy (which should be a minimum of 0.6).

Nevertheless, as factor analysis assumes an interval level of measurement,[131] MSP analysis[127] was also undertaken in order to further explore SCOPE scales using nominal or ordinal variables. Like factor analysis, this method, which is based on item response theory,[132] assumes that item responses relate to latent traits. MSP is an exploratory non-parametric analysis that aims to produce robust, unidimensional scales, using Loevinger's H-coefficients[133] to express the model fit of scale items and the homogeneity of the scale itself. H-scores range from 0 (uncorrelated) to 1 (perfectly correlated) and, conventionally, scales with $H \geq 0.3$ are considered useful, $H \geq 0.4$ are medium strong and $H \geq 0.5$ are strong scales.[134] MSP allows items to appear in one scale only. A reliability coefficient (ρ) is also calculated for each scale, on which values > 0.6 indicate sufficient reliability.[127]

Psychometric evaluation

The psychometric properties of SCOPE (long and short versions) were examined in order to assess the reliability and validity of its items and scales. The reliability of a scale relates to its freedom from systematic error, in that it elicits the same or very similar responses irrespective of who asks the questions (inter-rater reliability), is stable over short periods of time (test–retest reliability) and the items included within it measure the same underlying attribute (internal consistency). The validity of the scale relates to the extent to which it measures what it is supposed to measure in terms of its content (content validity), and how it relates to similar measures of the same construct or similar constructs (construct validity), often within

different population groups to demonstrate similarities (convergent validity) or differences (discriminant validity).

Reliability

The reliability of the SCOPE long version was examined in terms of the internal consistency of potential SCOPE scales, both within a domain and across domains, in the three mental health groups and overall, using Cronbach's alpha coefficients. This process facilitated the identification of scale items that should be retained, and those which could be removed without detracting from the psychometric properties of that scale. Alpha coefficients of >0.7 indicate good internal consistency and suggest that items included in the scale are measuring the same construct. Nevertheless, low alpha coefficients are not uncommon in short scales (i.e. those with <10 items) and in these instances it is more important to report the mean inter-item correlation,[135] where a coefficient within the range 0.2–0.4 is considered optimum.[136]

Test–retest reliability was examined using the SCOPE short version in a convenience sample of university students ($n=102$) who self-completed the SCOPE at baseline and at 2-week follow-up ($n=26$). A second sample of students completed an online version of SCOPE using SurveyMonkey (SurveyMonkey.com, Palo Alto, CA, USA) ($n=188$, and $n=119$ at follow-up). The students were offered the opportunity to take part in a prize draw for high street shopping vouchers upon completion of the second questionnaire, as an incentive to participate at both time points. Data were analysed using cross-tabulations with kappa tests for dichotomous variables, and correlation coefficients to explore the consistency of SCOPE scales. The magnitude of the association between scales on the SCOPE was classified as follows:[137] small $r=\pm0.10$ to 0.20; medium $r=\pm0.30$ to 0.49; large $r=\pm0.50$ to 1.00.

Validity

Content validity was assessed qualitatively during Phase I of the study using concept mapping techniques, literature review and consultation with an the expert panel (as suggested by Atkinson and Lennox[138]) and examined further in Phase II by an evaluation of the questionnaire, conducted during the pre-testing stage and final testing stages.

In the absence of an existing measure of social inclusion, construct validity was examined in terms of the nature of the relationship between social inclusion as measured by the SCOPE, and the related concepts of participation and social capital as measured by Berry[69] and the RG-UK, respectively. The nature and direction of the relationship between these measures was assessed using Pearson's and Spearman's rho correlations, and partial correlations and multiple regression analysis, which also control for the effect of one or more intervening variables. The purpose was to demonstrate whether the three measures are all based on a single underlying factor, or whether they reflect similar but distinct constructs. In addition, the association between objective and subjective indicators of social inclusion was assessed using univariate and multivariate techniques. Associations between domain-appropriate objective and subjective social inclusion and global subjective ratings of inclusion were examined using correlation and regression coefficients.

Finally, convergent and discriminant validity were examined by comparing the three known mental health status groups using cross-tabulations with chi-squared statistics for dichotomous and categorical items, and one-way analysis of variance (ANOVA) with post hoc Tukey HSD (honestly significant difference) tests for continuous variables. A post hoc adjustment reduces the likelihood of type I error (producing false-positive results) but can make it more difficult to obtain statistically significant differences. The non-parametric equivalent (Kruskal–Wallis) was applied if the distribution of samples was skewed and not normalisable by transformation, or if

sample sizes were inadequate for parametric tests. The Tukey HSD test is recommended as one of the more commonly used tests that does not result in a reduction in power.[135] Standardised residuals (SRs) that were > 2.5 were used to locate specific between-group differences in categorical variables, as the number of groups exceeded two.

The ability to reflect the status of excluded groups other than people with mental health problems was also assessed by comparing people with and without limiting long-term illness (LLTI) and adults of working age (aged 18–64 years) with older adults aged 65–74, 75–84 and 85-plus years. Differences in dichotomous and categorical variables were again tested using cross-tabulations with chi-squared statistics. Differences between LLTI groups were tested using independent sample *t*-tests, and age group differences were tested using ANOVA with post hoc Tukey HSD, or the non-parametric equivalent where appropriate.

Responsiveness

In addition to demonstrating temporal stability over short periods of time it is important that any measure is responsive to naturally occurring changes or to changes over time brought about by specific interventions. The responsiveness of SCOPE was examined in MHSU samples using change scores as dependent variables in analysis of variance, change over time assessed by paired *t*-test and chi-squared tests for categorical variables. We also planned to compute the reliable change index (see *Appendix 5*).

Amendments to protocol

The methods described above include some amendments to the original protocol (see *Appendix 6*), which are outlined below.

The first two of the original four components of the study were completed as planned. Tasks 5 and 6 in components 3 and 4 (psychometric and beta testing) were subject to some amendment and improvement.

The anticipated cooperation from the National Social Inclusion Network (which had been immensely useful in Phase I of the project) was not forthcoming and the network ceased to operate in 2008–9, making it impossible to draw upon the network for assistance with the final components of the study. Despite strenuous efforts to engage mental health services, it proved difficult to sustain their participation (for reasons outlined in detail in *Chapter 3*), which, as a result, has limited our capacity to demonstrate responsiveness to date. The difficulties experienced were accentuated in part by the timing of the principal investigator's (PI's) move from the Institute of Psychiatry in London, where there was ready access to clinical services, to none in Swansea where the medical school was newly established. Consequently, at the time of writing this final report only limited information on the measure's responsiveness was available. In order to ensure that essential and better quality information about the responsiveness of SCOPE is generated, Swansea University has agreed a contract extension for the project research assistant to continue with this phase of the study, in those sites where cooperation is ongoing. The data will be supplied to Health Technology Assessment (HTA) at a later date.

It was not possible to add the SCOPE to the study of arthritis sufferers as we had planned. Instead, two groups at risk of exclusion – adults with LLTI and older people – were selected. The results for those people with LLTI were compared with those of people without LLTI, and the results of the older people were compared with those of adults of working age. This amendment has the advantage that both of these groups provided a larger sample size than would have been achieved with young arthritis sufferers.

Test–retest reliability was assessed in a student group ($n = 119$) rather than in a patient group ($n = 50$) as planned. The student groups were easily accessible and available over the 2-week retest period. They enabled us to achieve a larger sample size for test–retest reliability than a patient group could have in the time available.

Construct validity was not assessed using two patient groups as planned ($n = 50$ each), but was undertaken in the main survey sample ($n = 252$) by including the Berry participation measure and the social capital measure (RG-UK). Again, this provided a robust test in relation to the most closely related concepts (according to our review of the literature), and also gave us a larger sample size.

The SCOPE instrument is straightforward to use and can be self-completed, or conducted as an interview, simply by following completion instructions; consequently, the training package we had planned to develop proved unnecessary. With the exception of one of the London services, we received very positive feedback about the ease with which the SCOPE could be completed and the relevance of the content to the respondents, irrespective of the group to which they belonged (students, people with severe or common mental health problems). Nevertheless, and on reviewers' advice, we have developed a SCOPE User Guide, which is included as *Appendix 7*.

Chapter 3

Results

Component 1: development and pre-testing of the long version

Questions for SCOPE were sourced via the UK Data Archive and the SQB, by using the search functions and exploring topic areas. Questions were sourced from the National Health Survey for England 2006;[139] British Household Panel Survey 2006;[140] National Survey for Culture, Leisure and Sport 2005–6;[141] Citizenship Survey 2007;[142] Offending Crime and Justice Survey 2004;[143] UK Census 2001;[144] SF-36 Health Survey;[126] British Crime Survey 2006;[145] Labour Force Survey 2006;[146] General Household Survey 2006;[147] and the Manchester Short Assessment of Quality of Life (MANSA).[148] Questions that sought responses on the areas covered in the social inclusion matrix (presented in *Table 3* earlier) were then considered and the most suitable were selected for the index on the basis of clarity, relevance (to the life domains identified in Phase I) and quality. When several suitable questions were identified, the strengths and weaknesses were discussed by the project team, and a consensus of opinion sought. Occasionally, two similar questions were included in the long format questionnaire in order that their utility could be tested empirically. One example of there being several potentially suitable indicators related to indicators of economic activity (shown in *Appendix 8*); in this case, we selected the question included in the British Household Panel Survey of 2006,[140] as it was considered to be the most relevant to the life domain and was the clearest of the questions identified.

The objective questions originated wherever possible from these national surveys. Subjective ratings were measured using the seven-point delighted–terrible scale[125] included in the MANSA. The MANSA items were selected because the measure is used extensively in mental health research internationally, including in community surveys and community mental health services research, and the same questions are included in the longitudinal follow-up of the National Psychiatric Morbidity Survey (NPMS),[149,150] which, again, facilitates comparisons with the general population. In addition, large databases of results using this scale are available to us from the UK and elsewhere,[151] all of which are composed of similar domains. This scale is, strictly speaking, ordinal, although it is widely treated as interval data (see *Appendix 5*).

The initial version of SCOPE (referred to here as the long version) presented in *Appendix 9* includes objective and subjective questions in the eight domains identified in *Table 4*, which shows the number of questions of each type in each domain. There were 121 questions in total, including four demographic items.

Summary

We found objective questions on key variables by searching existing survey databases [mainly Office for National Statistics (ONS) ones]. We used the delighted–terrible rating scale from previous work for all the subjectively rated items. All suitable candidate questions were retained for the 'long' version, resulting in a 121-variable version. This was the version we then subjected to preliminary testing in a community survey (see *Component 2: preliminary testing*).

TABLE 4 Social and Community Opportunities Profile long version content by domain

Domain	SWB items (*n*)	SatOpps items (*n*)	Subjective Perceived Opps items (*n*)	Objective opportunity items (*n*)	Objective participation items (*n*)	Desired change items (*n*)	Routing/ filter Items (*n*)	Total
Leisure and participation	1	4	3	4	6	3	3	*24*
Housing and accommodation	1	1	1	6	2	1	0	*12*
Safety	2	0	0	1	3	0	2	*8*
Work	2	1	1	3	0	1	0	*8*
Finance	2	1	1	7	0	1	2	*14*
Education	1	1	1	2	5	1	1	*12*
Health	2	1	1	2	0	1	8	*15*
Family and social	3	3	2	2	7	2	4	*23*
Overall inclusion	1	0	0	0	0	0	0	*1*
Demographic	0	0	0	0	0	0	4	*4*
Total	*15*	*12*	*10*	*27*	*23*	*10*	*24*	*122*

Component 2: preliminary testing

In order to obtain the required sample numbers as described in *Chapter 2*, it was necessary to modify the sampling strategy in some areas. In the south-east London area it was necessary to draw a second random list to generate the final 15 interviews, and the data collection period had to be extended slightly in two areas, owing to flooding in the south Wales location and competing research being undertaken by a housing association in one subarea of the south-east England county town.

Participants were identified in accordance with the sampling strategy in most cases, usually being conducted with the head of household or partner, but in some cases it was necessary to make quota-based adjustments to include alternative household members.

The community sample consisted of 252 respondents, who tended to be middle-aged, female, of white ethnic origin, and physically and mentally healthy, although one-third reported having a LLTI. The demographic characteristics are presented in *Table 5*.

Statistically significant demographic differences were observed between the five different areas within our community sample, for age $F(4,247) = 6.46$, $p < 0.001$ and ethnicity [$\chi^2 = 23.02$ (degrees of freedom, df 4), $p < 0.001$) but not gender [$\chi^2 = 2.09$ (df 4), $p = 0.72$]. A medium age–area effect ($\eta^2 = 0.09$) focused on one rural county area (area 4), the population of which was significantly older than those of all others ($p < 0.05$), on average being between 11.8 years (compared with area 5) and 19.8 years (compared with area 3) older than the other area samples. A medium ethnicity–area effect ($\phi = 0.30$) centred largely on area 2, a city area that might be expected to be and was significantly more ethnically diverse (SR 3.6) than the other locations. Similarly, area differences were apparent in relation to LLTI [$\chi^2 = 18.08$ (df 4), $p = 0.001$], which approached a medium magnitude effect ($\phi = 0.27$); reporting of LLTI was highest in area 4, (supporting the link with age) and lowest in area 2, but the SR statistic did not reach 2.5, which would suggest a statistically significant difference between these two areas. Although there was a non-significant trend towards poorer physical health (as indicated by scores of < 8 on the physical health index of the SF-36) in a south Wales valleys area [$\chi^2 = 8.37$ (df 4), $p = 0.079$, $\phi = 0.18$; SR 2.1], the

proportion with an identifiable mental health problem (according to the SF-36 MHI-5) did not differ between the five areas [$\chi^2 = 5.35$ (df 4), $p = $ NS, $\phi = 0.15$].

Table 6 shows that the only major difference between our sample and national survey data is in the mean age; however, this difference fails to reach significance.

Sampling mainly during the day and early evening meant that more of our sample were older and retired, but also more likely to be at home as a result of LLTI. This may also account for the significantly higher proportion on income benefit and not in receipt of earnings from work, and lower self-reported good health. Interestingly, the proportion (5%) reporting 'bad health' was the same in our sample as in the Health Survey for England.[139] For those in work, home and car ownership are likely to be more common, and this may account for these significant differences between the samples.

TABLE 5 Demographics of community sample by area

Sample group (*n*)	Mean age (years): (SD and age range)	Gender (% of grouping variable)		Ethnicity (% of grouping variable)		LLTI or disability (% of grouping variable)		Physical health problems (% of grouping variable)		Mental health problems (% of grouping variable)	
Area 1: south Wales (55)	53 (22) (16–90)	Male	43.6 *n* = 24	Other ethnic group	1.8 *n* = 1	Yes	44.4 *n* = 24	Yes	18.2 *n* = 10	Yes	14.5 *n* = 8
		Female	56.4 *n* = 31	White	98.2 *n* = 54	No	55.6 *n* = 30	No	81.8 *n* = 45	No	85.5 *n* = 47
Area 2: south-east London (51)	52 (18) (20–90)	Male	37.3 *n* = 19	Other ethnic group	21.6 *n* = 11	Yes	19.6 *n* = 10	Yes	3.9 *n* = 2	Yes	11.8 *n* = 6
		Female	62.7 *n* = 32	White	78.4 *n* = 40	No	80.4 *n* = 41	No	96.1 *n* = 49	No	88.2 *n* = 45
Area 3: north-east England (51)	46 (20 (17–80)	Male	45.1 *n* = 23	Other ethnic group	3.9 *n* = 2	Yes	23.5 *n* = 12	Yes	11.8 *n* = 6	Yes	13.7 *n* = 7
		Female	54.9 *n* = 28	White	96.1 *n* = 49	No	76.5 *n* = 39	No	88.2 *n* = 45	No	86.3 *n* = 44
Area 4: east England (51)	65 (19) (22–92)	Male	35.3 *n* = 18	Other ethnic group	0 *n* = 0	Yes	52 *n* = 26	Yes	7.8 *n* = 4	Yes	13.7 *n* = 7
		Female	64.7 *n* = 33	White	100 *n* = 51	No	48 *n* = 24	No	92.2 *n* = 47	No	86.3 *n* = 44
Area 5: south-east England (44)	54 (21) (16–88)	Male	34.1 *n* = 15	Other ethnic group	11.4 *n* = 5	Yes	45.5 *n* = 20	Yes	4.5 *n* = 2	Yes	27.3 *n* = 12
		Female	65.9 *n* = 29	White	88.6 *n* = 39	No	54.5 *n* = 24	No	95.5 *n* = 24	No	72.7 *n* = 32
Whole sample (252)	54 (21) (16–92)	Male	39.3 *n* = 99	Other ethnic group	7.5 *n* = 19	Yes	36.8 *n* = 92	Yes	9.95 *n* = 24	Yes	15.9 *n* = 212
		Female	60.7 *n* = 153	White	92.5 *n* = 233	No	63.2 *n* = 158	No	90.05 *n* = 228	No	84.1 *n* = 40
National statistics	39 (Census 2001)[144]	Male	49	Other ethnic group	8.7	Yes	19.64	Yes		Yes	21
		Female (Census 2001)[144]	51	White (Census 2001)[144]	91.3	No (Census 2001)[144]	80.36	No		No (national 79%) Psychiatric Morbidity Survey Follow-up 2000[158]	

SD, standard deviation.

These comparisons are for illustrative purposes only. For individual services, comparisons with data at their local level will be more meaningful and often these data are gathered by the local authority rather than from national survey data. Some national survey data can be made available at the local level, in some cases ward level, but many cannot. Employment and deprivation levels will vary by locality. Survey data continues to be used to obtain objective indicators.[152,153]

In other demographic terms, the sample does not differ from the national survey data. The sample is not, therefore, entirely representative of the general population in some respects but is in others. These differences need to be taken account of in subsequent modelling procedures. This will most easily be achieved by controlling for age and employment status, as these are probably the key determinant of the other differences shown in *Table 6*.

Scores on the MHI-5 were used to identify individuals with and without mental health problems, who would form the CMD and MHC samples, using the guidance from the UK SF-36 analysis and interpretation manual.[154] *Table 7* shows the questions and scoring system. Individual item scores were summed to give a total mental health score, ranging from a minimum of 5 to a maximum of 30, where lower scores indicated poorer mental health. These scores were then transformed into a mental health score variable (minimum = 0, maximum = 100) using the following formula: mental health score = (total mental health score) – 5 × 100/25.

TABLE 6 Survey results and study sample data compared

Variable	Survey source	Survey result (%)	Present sample (%)	χ^2 with Yates' correction (*p*), all df = 1
Mean age	Census[144]	39	53	3.40 (0.07), NS
Per cent white	Census[144]	91	94	0.29 (0.59), NS
Per cent female	Census[144]	60	68	1.06 (0.30), NS
No qualifications (age < 65 years)	General Household Survey[147]	25	37	2.83 (0.09), NS
No qualifications (age > 65 years)	General Household Survey[147]	56	73	5.59 (0.02)
Never married	Census[144]	30	38	1.09 (0.30), NS
Divorced	Census[144]	8	14	1.28 (0.25), NS
No car	Census[144]	27	46	6.99 (0.008)
Home owner	British Household Panel Survey 2007[140]	72	43	16.04 (< 0.001)
In employment (full- or part-time)	British Household Panel Survey 2007[140]	50	27	10.22 (0.001)
Earnings from employment	Health Survey England 2006[139]	73	29	36.99 (< 0.001)
On income support	Health Survey England 2006[139]	9	44	29.68 (< 0.001)
Retired	British Household Panel Survey 2007[140]	22	34	3.0 (0.08), NS
More than 2 months behind with rent	British Household Panel Survey 2006[140]	1	4	0.83 (0.36), NS
Comfortable or well-off financially	British Household Panel Survey 2007[140]	70	41	15.87 (< 0.001)
Out for a drink at least once a week	British Household Panel Survey 2009[140]	17	12	0.65 (0.42), NS
No close friends	People, Families and Communities[142]	7	4	0.38 (0.53), NS
Three or more close friends	People, Families and Communities[142]	58	52	0.51 (0.47), NS
Health good or better	Health Survey England[139]	81	48	22.36 (< 0.001)
Health bad	Health Survey England[139]	5	5	0.11 (0.75), NS
LLTI	Census[144]	20	46	14.13 (< 0.001)

Mental health index scores for the general population sample were negatively skewed, with a mean of 73 [standard deviation (SD) 19], a median of 76 and a mode of 92. The distribution of these scores is shown in the histogram in *Figure 6*.

There is a paucity of information on normative UK data for the SF-36. The scores that are in current use for SF-36 norms are 18 years old and are of limited use given the age and geographical restrictions on the samples in the studies.[155] In addition, it has not been developed with a recommended cut-off point to define cases of CMD.[156]

Kelly *et al.*[156] suggest using the General Health Questionnaire (GHQ)[157] as a gold standard and to identify cut-off points on the MHI-5 that are consistent with those of the GHQ in terms of the proportion of cases of CMD. They suggest an optimum cut-off point of 60, with respondents with scores ≤ 60 being classified as having a CMD. Given that our community sample is negatively skewed, a cut-off point of 60 would classify 27% of the sample as having a CMD, which we felt was too high in comparison with previous findings.

Instead, we were guided by the NPMS[158] finding that 16% of the UK adult population had an identifiable neurotic disorder in the week they were interviewed, and used 16% as a cut-off in the community sample (2007 data were not published at the time.). This gave us a cut-off score of 52, with respondents scoring ≤ 52 being classified as having a CMD. The remaining respondents were classified as being a MHC group. The analyses that follow were repeated using the classification advocated by Kelly *et al.*,[156] but the pattern of results remained unchanged; as one might expect, the more stringent cut-off point of 52 produced mental health status between-group differences of greater magnitude and significance.

TABLE 7 Mental Health Index five items questions and scoring system

How much time during the last 4 weeks have you …	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
Been a very nervous person?	1	2	3	4	5	6
Felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
Felt calm and peaceful?	6	5	4	3	2	1
Felt downhearted and blue?	1	2	3	4	5	6
Been a happy person?	6	5	4	3	2	1

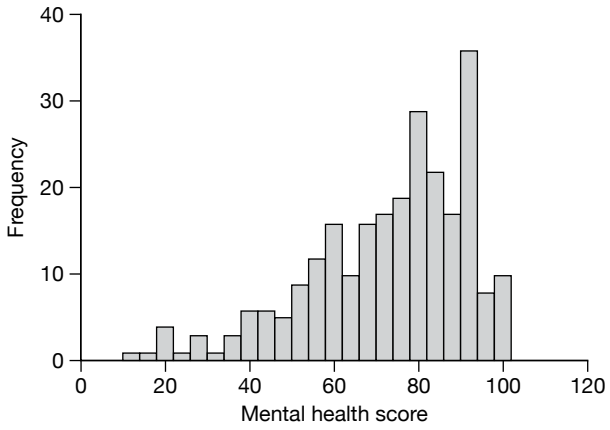

FIGURE 6 Distribution of mental health scores in community sample.

Table 8 shows the age and gender of the MHC sample, those over the threshold for CMD and MHSUs with more severe or chronic mental illnesses.

It appears that the MHC sample was slightly but not significantly older than the CMD and MHSU group [Welch test = 2.76 (df 2, 71), p = NS; Brown–Forsythe test = 2.26 (df 2, 98), p = NS] but similar in age and gender to the second user sample (MHSU2). Although there was a trend towards a higher proportion of women in the CMD group, this difference just failed to reach statistical significance [$\chi^2 = 5.85$ (df 2), $p = 0.054$] and the magnitude of the effect would be considered small ($\phi = 0.142$).

Summary

We conducted a community survey in five locations in England and Wales, resulting in 252 completed versions of the 'long' SCOPE. The sample was older than Census data, but not significantly so. There were employment status differences and related differences (car ownership, for instance) indicating that our sample was significantly disadvantaged compared with the general population. Consequently, it was no surprise to find higher rates of mental ill health in our sample. In order to be certain that the mental health score threshold resulted in a sample with a very likely CMD we set the cut-off point so that 16% of the sample had CMD, the same as in the NPMS. This resulted in a sample with very similar demographics to a sample of MHSUs in contact with community mental health teams (CMHTs) collected to examine sensitivity and responsiveness (see *Table 8*). We used the healthy community sample, the CMD cases and the MHSU group to conduct discriminant validity analysis. We consider this and other psychometric features of the long version in the next section.

Component 3: (a) psychometric evaluation of the long version

Internal consistency (long version)

As highlighted in *Table 4*, the SCOPE long version includes objective items relating to opportunity and participation and subjective assessments of well-being, opportunities and Perceived Opps in eight domains. An additional subjective item relating to overall inclusion is also included. These items are shown in *Table 9*.

The mean of domain ratings of SWB, SatOpps and Perceived Opps were calculated to form three cross-domain ratings. The SWB and SatOpps indices each have a minimum score of 1 and a maximum score of 7, and the Perceived Opps index has a minimum score of 1 and a maximum

TABLE 8 Demography by mental health status group

Sample group	*n*	Mean age and age range (years)	Gender (%)
MHC	212	55 (SD 21, range 16–92)	Male 42.5 (n=90) Female 57.5 (n=122)
CMD	40	51 (SD 19, range 21–92)	Male 22.5 (n=9) Female 77.5 (n= 31)
MHSU	43	49 (SD 12, range 21–67)	Male 43.6 (n=17) Female 56.4 (n=22)
MHSU2[a]	40	56 (SD 12, range 22–76)	Male 41.0 (n=16) Female 59.0 (n=23)

a Second user group collected for sensitivity and responsiveness analyses.

TABLE 9 Items in subjective scales

Domain	SWB: delighted–terrible scale (minimum = 1, maximum = 7)	SatOpps: delighted–terrible scale (minimum = 1, maximum = 7)	Perceived Opps: five-item scale (minimum = 1, maximum = 5)
Leisure and participation	Overall, how do you feel about your own leisure activities?	How do you feel about the range of opportunities to be involved with community groups, clubs or organisations that are available in your area? How do you feel about the range of opportunities for voluntary participation that are available? How do you feel about the range of leisure opportunities that are available to you? Overall, how do you feel about the opportunities that you have to participate in leisure activities?	What do you think about the general availability of these groups and activities in your area? What do you think about the opportunities available in your area to undertake these kind of activities? (voluntary participation) What do you think about the general availability of opportunities available in your area to undertake these kind of activities? (sports and entertainment)
Housing and accommodation	How do you feel about your accommodation?	How do you feel about the range of opportunities for accommodation that are available?	What do you think about your opportunities to access suitable housing?
Safety	How do you feel about the general safety of your area? How do you feel about your personal safety?	No items	No items
Work	How do you feel about your current job? How do you feel about not working?	How do you feel about the range of opportunities for work that are available to you?	What do you think about your opportunities to find suitable work in this local area?
Finance	Overall, how do you feel about your personal financial situation? Overall, how do you feel about your household financial situation?	How do you feel about the range of opportunities to secure additional income that are available?	What do you think about your opportunities to increase your personal income?
Education	How do you feel about your own education and training?	How do you feel about the range of educational opportunities that are available to you?	What do you think of the general availability of the educational opportunities?
Health	How do you feel about your present physical health? How do you feel about your present mental health?	How do you feel about the range of opportunities to improve your health that are available?	What do you think about opportunities to improve your health?
Family and social	How do you feel about the amount of contact you have with your family? How do you feel about your relationship with your family? How do you feel about the relationships you have with your friends?	How do you feel about the range of opportunities to contact your family? How do you feel about the range of opportunities for making new friends? How do you feel about the range of opportunities to meet people?	What do you think about the opportunities you have to contact your family? What do you think about the opportunities to meet people in your area?
Overall inclusion	Overall, how do you feel about the extent to which you are included in society?		

of 5. This approach of producing an average score rather than a total score (using the SUM function) is advantageous in that missing values have less impact, but the smaller range might affect the capacity to discriminate between groups and over time.

The desired change to opportunities index was produced by recoding the open-ended desired change questions into bivariate items where 'yes' = 1 and 'no' = 0, and summing these scores to give a minimum possible score of 0 and the maximum possible score of 10.

Twelve of the fourteen objective items relating to access needed recoding into binary scores on which a score of 1 was positive, indicating greater inclusion; two items relating to the number of friends and number of close friends were recoded and categorised, for example, as zero friends = 0, some (i.e. 1–10 friends) = 1, and many (i.e. > 10 friends) = 2. These recoded variables were then summed to create a rating of the extent of inclusion [Fourteen-Item Objective Opportunity Rating (O14)], on which the minimum possible score was 0 and the maximum possible score was 18. Similarly, 12 of the 13 participation items were recoded into binary variables on which a score of '1' indicated a positive situation; use of sports and entertainment facilities was reclassified as ≤ 3, 4–5 and 6+ and scored 1, 2 and 3. These variables were also summed to create a participation rating [Thirteen-Item Objective Participation Rating (P13)] on which possible scores ranged between 1 and 18.

The internal consistency of the cross-domain indices was tested using Cronbach's alpha coefficients, and the results are shown in *Table 10*.

Alpha coefficients of between 0.7 and 0.9 indicate good internal consistency for SWB, Perceived Opps and SatOpps scales in the sample as a whole, and when analysed by mental health sample groups.

The changes to opportunities items have a low alpha coefficient, suggesting a lack of internal consistency between items, which raises questions about the construct being measured and whether or not the items constitute a reliable scale. Nevertheless, low alpha values such as this are

TABLE 10 Internal consistency of cross-domain indices

Cross-domain ratings	No. of items	Cronbach's alpha coefficient		Inter-item correlations	
SWB	14, +1 overall inclusion	Whole sample	0.832	Whole sample	0.27
		MHC	0.793	MHC	0.222
		CMD	0.750	CMD	0.191
		MHSU	0.875	MHSU	0.349
Perceived Opps	10	Whole sample	0.741	Whole sample	0.22
		MHC	0.736	MHC	0.212
		CMD	0.767	CMD	0.276
		MHSU	0.766	MHSU	0.247
SatOpps	12	Whole sample	0.837	Whole sample	0.29
		MHC	0.800	MHC	0.251
		CMD	0.884	CMD	0.391
		MHSU	0.896	MHSU	0.425
Changes to opportunities	10	Whole sample	0.532	Whole sample	0.113
		MHC	0.521	MHC	0.102
		CMD	0.432	CMD	0.079
		MHSU	0.758	MHSU	0.252
Objective (O14)	14	Whole sample	0.50	Whole sample	0.053
		MHC	0.503	MHC	0.072
		CMD	0.486	CMD	0.059
		MHSU	0.381	MHSU	0.042
Participation (P13)	13	Whole sample	0.46	Whole sample	0.069
		MHC	0.673	MHC	0.247
		CMD	0.417	CMD	0.056
		MHSU	–0.014	MHSU	0.003

not uncommon in short scales (i.e. with < 10 items) and in these instances it is more appropriate to report the mean inter-item correlation,[135] where a range between 0.2 and 0.4 is regarded as optimum;[136] the changes to opportunities index did not reach these optimum levels, confirming that its items should not be used as a scale. Nevertheless, the changes to opportunities items have a higher alpha coefficient and good inter-item correlations in the MHSU sample. These results suggest that the changes in opportunities items should be excluded from the short SCOPE, but might be included alongside the short SCOPE items in studies of MHSUs in clinical settings.

Low alpha coefficients and poor inter-item correlations for O14 and P13 indicate that neither constitutes a reliable scale. The items contributing to these ratings are included later in the chapter (see *Tables 15* and *17*). Because the research team was tasked with developing a social inclusion index that captures objective as well as subjective items and can locate feelings about inclusion within the context of the availability of, and participation in, specific activities, these items are retained in the short SCOPE despite their lack of internal consistency. Nevertheless, the team recommends that O14 *and* P13 items be considered and analysed individually and not as scales.

The SWB scale, the SatOpps scale and the overall inclusion scale were all significantly negatively skewed. Skewness was tested using the following formula: skewness/standard error of skewness. Values falling outside the range of ± 1.96 are skewed. For the analyses that follow, the skewed variables were transformed to meet the assumption of normality required for parametric tests. Unless otherwise stated, the significance, magnitude and direction of effects did not differ in analyses of untransformed and transformed data. Consequently, where this is the case results based on untransformed data are presented for ease of interpretation. The skewed variables were transformed using reflect and logarithm [new variable = log10 (K – old variable), where K is the largest possible value of the variable + 1]. Tests for significant skew were repeated following the transformation and all three variables fell within the normal distribution range. The Perceived Opps scale had a normal distribution originally, and did not require transformation.

Analysis of transformed and untransformed data produced the same results in terms of the nature, magnitude and significance of differences, so the results that follow are based on the original untransformed data, for ease of interpretation.

Discriminant validity (long version)

In order to determine whether or not SCOPE subjective scales were capable of discriminating between known groups, the impact of mental health status was examined using one-way between-groups ANOVA, with Tukey HSD post hoc adjustments. To explore the discriminant validity of the scales further, the analysis was repeated using the age groups ≤ 64 years, 65–74 years, 75–84 years and ≥ 85 years. Independent samples t-tests were conducted to compare the subjective SCOPE scale scores for those self-reporting a LLTI and those reporting no illness (no LLTI).

Subjective well-being score

Mental health status has a large ($\eta^2 = 0.3$)[137] and statistically significant association with SWB scores [$F(2,290) = 61.7$, $p = 0.000$]. The results presented in *Table 11* indicate that SWB scores for the MHC sample are significantly higher than those of the CMD and MHSU groups. On average, MHC group scores were 0.93 points higher than CMD group scores and 1.19 points higher than MHSU scores. Nevertheless, the confidence intervals highlight that MHC scores could be anything between 0.65 and 1.21 points higher than CMD group scores (on the seven-point scale), and between 0.91 and 1.47 points higher than MHSU scores. Although MHSU group scores were slightly lower than CMD group scores, they did not differ significantly from each other.

TABLE 11 Objective well-being score by mental health status group (14 items: minimum score = 1, maximum score = 7)

Effect size (η^2) = 0.33 (large)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.46 (0.80)	MHC	–0.93	0.00	–1.21	–0.65
		MHSU	0.26	NS	–0.10	0.62
MHC	5.39 (0.60)	CMD	0.93	0.00	0.65	1.21
		MHSU	1.19	0.00	0.91	1.47
MHSU	4.20 (0.96)	CMD	–0.26	NS	–0.62	0.10
		MHC	–1.19	0.00	–1.47	–0.91

Age group has a small ($\eta^2 = 0.04$) but statistically significant association with SWB scores [$F(3,248) = 3.79$, $p = 0.011$]. SWB scores in the working age group (≤ 64 years) are significantly lower than those in the 65- to 74-year-old group, with the average score of the working age group being 0.323 points lower than the 65- to 74-year-old group, although these scores could be between 0.64 and 0.01 points. The differences between the other age groups were not statistically significant.

There was a significant difference in scores for the SWB scale between the LLTI group (mean = 5.12, SD = 0.71) and the no-LLTI group (mean = 5.32, SD = 0.72); $t(248) = 2.09$, $p = 0.04$. The magnitude of differences in the means (mean difference = 0.20, 95% confidence interval 0.01 to 0.38) was small ($\eta^2 = 0.02$).

Satisfaction with opportunities score

Mental health status also has a large ($\eta^2 = 0.14$) and statistically significant association with SatOpps scores [$F(2,291) = 24.79$, $p = 0.000$]. *Table 12* illustrates that the pattern of results was very similar to those for SWB in that MHC scores were significantly higher than those for the CMD and MHSU groups, and the scores for both mental illness groups did not differ significantly from each other. On average, mean scores were 0.74 higher in the MHC group than in the MHSU group and 0.81 higher than in the CMD group, but MHC scores could be anything between 0.41 and 1.07 points higher than those of the MHSU group and between 0.48 and 1.15 points higher than the MHSU group.

The different age groups did not have a statistically significant association with the SatOpps scale [$F(3,248) = 0.917$, $p = 0.508$].

There was no significant difference in scores for the SatOpps scale between the LLTI group (mean = 4.67, SD = 0.84) and the no LLTI group (mean = 4.81, SD = 0.89); [$t(248) = 1.24$, $p =$ NS]. The magnitude of differences in the means (mean difference = 0.14, 95% confidence interval –0.08 to 0.36) was very small ($\eta^2 = 0.006$).

Perceived opportunities score

Perceived opportunity scores differed significantly according to mental health status [$F(2, 292) = 14.412$, $p = 0.000$], although the magnitude of this effect was medium rather than large ($\eta^2 = 0.08$). Nevertheless, *Table 13* shows that the pattern of results was somewhat different than for SWB and SatOpps, in that scores for the MHC group did not differ significantly from those of the MHSU group, whereas the CMD group did. Ratings of Perceived Opps were significantly lower in the CMD group than in the MHSU and MHC groups. On average, CMD scores were 0.68 points lower than those of the MHC sample and 0.42 points lower than those

TABLE 12 Satisfaction with opportunities score by mental health status group (12 items: minimum score = 1; maximum score = 7)

Effect size (η^2) = 0.15 (large)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.07 (0.92)	MHC	–0.81	0.00	–1.15	–0.48
		MHSU	0.08	NS	–0.51	0.35
MHC	4.89 (0.79)	CMD	0.81	0.00	0.48	1.15
		MHSU	0.74	0.00	0.41	1.07
MHSU	4.15 (0.92)	CMD	0.08	NS	–0.35	0.51
		MHC	–0.74	0.00	–1.07	–0.41

TABLE 13 Perceived Opportunities score by mental health status (10 items: minimum score = 1, maximum score = 5)

Effect size (η^2) = 0.09 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	2.73 (0.8)	MHC	–0.68	0.00	–0.98	–0.37
		MHSU	–0.42	0.03	–0.81	–0.04
MHC	3.40 (0.74)	CMD	0.68	0.00	0.37	0.98
		MHSU	0.25	0.11	–0.04	0.55
MHSU	3.15 (0.72)	CMD	0.42	0.03	0.04	0.81
		MHC	–2.51	0.11	–0.55	0.04

of the service user group. Nevertheless, CMD scores could be anything between 0.37 and 0.98 points lower than in the MHC group and between 0.04 and 0.81 points lower than in the MHSU group.

The different age groups did not have a significant association with the Perceived Opps score. It was not appropriate to use an ANOVA test owing to the non-homogeneity of variance as indicated by the Levene statistic (Levene = 4.53, $p = 0.04$), so Welch and Brown–Forsythe tests were used instead [Welch = 0.788 (df 3), 42.55, p = NS; Brown–Forsythe = 0.641 (df 3), 50.24, p = NS].

There was a significant difference in scores for the Perceived Opps scale between the LLTI group (mean = 3.01, SD = 0.84) and the no-LLTI group (mean = 3.46, SD = 0.72) [$t(167.1) = 4.25$, $p = 0.00$]. The magnitude of differences in the means (mean difference = 0.44, 95% confidence interval 0.24 to 0.65) was moderate ($\eta^2 = 0.07$).

Overall satisfaction with inclusion in society

Finally, *Table 14* illustrates that the three mental health status groups differed significantly in their average ratings on the single-item 'overall satisfaction with inclusion' [$F(2, 284) = 20.752$, $p = 0.000$], the magnitude of the effect being classified as large ($\eta^2 = 0.13$). As for the domain-averaged SWB scale, MHC scores were significantly higher than those for the CMD and MHSU groups, and CMD scores were slightly but not significantly higher than MHSU scores. Although on average the MHC score was around 1 point higher than those of the other groups, the magnitude of the difference could be anything between 0.5 or 1.5 points, and slightly higher than the MHSU sample.

TABLE 14 Overall ratings of inclusion by mental health status group [overall inclusion score (one item): minimum score = 1, maximum score = 7]

Effect size (η^2) = 0.15 (large)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.10 (1.35)	MHC	−1.03	0.00	−1.53	−0.54
		MHSU	0.15	NS	−0.49	0.79
MHC	5.13 (1.08)	CMD	1.03	0.00	0.54	1.53
		MHSU	1.19	0.00	0.69	1.67
MHSU	3.95 (1.62)	CMD	−0.15	NS	−0.79	0.49
		MHC	−1.19	0.00	−1.67	−0.69

There was a significant association with age group and the overall inclusion item [$F(3,243) = 3.273$, $p = 0.022$]. The effect size, however, was small ($\eta^2 = 0.04$). The oldest age group (≥ 84 years) had average scores 1.143 points lower than the 65- to 74-year-old group (with a confidence interval of between 0.12 and 2.17 points) and 1.184 points lower than the 75- to 84-year-old group (with a confidence interval of between 0.15 and 2.22 points). There was not a significant difference between the scores of the ≥ 84 years group and the ≤ 64 years group.

There was no significant difference in scores for the single-item overall inclusion score between the LLTI group (mean = 4.77, SD = 1.30) and the no LLTI group (mean = 5.08, SD = 1.11); [$t(243) = 1.93$, $p = 0.06$]. The magnitude of differences in the means (mean difference = 0.30, 95% confidence interval −0.01 to 0.61) was small ($\eta^2 = 0.01$).

All of the statistically significant results remained following Simes adjustments for multiple testing, thereby demonstrating that the three SCOPE scales have good discriminant validity for the three known groups.

In order to examine the relationship between mental health status, LLTI status and actual (i.e. objective) reporting of opportunity and participation items, chi-squared tests were performed on each of the O14 and P13 indicators; Yates' continuity correction statistics are reported for 2 × 2 tables. In some cases the assumption that minimum expected frequency should be 5 was violated, in which case Fisher's exact probability test was reported.

The results presented in *Table 15* demonstrate SCOPE's capacity to discriminate between known groups on objective as well as subjective items. The three mental health status groups differed significantly on 11 of the O14 items, but were similar in terms of accommodation type, debt and qualification levels. In most respects, a higher proportion of the MHC group than in the mentally unwell groups had opportunities to be socially included; nevertheless, the CMD group had considerably fewer opportunities than the other samples, in terms of internet access (SR −2.3), financial stability (SR −2.4) and, to a lesser extent, finance-related social capital (SR −2.0). The CMD group were also more likely to report having no friends (SR 2.0) and less likely to have > 10 friends (SR −2.2), and they were more likely to report having only one close friend (SR 2.0) than the MHC group in particular. One explanation for these findings is that perceptions about the availability of opportunities might be more negative during episodes of mental ill health, particularly depression.

As one would expect, the MHSU and CMD groups were considerably more likely than the MHC sample to have mental health problems (SR 4.3 and SR 5.5, respectively), and while it is notable

TABLE 15 Objective opportunity items by mental health group (O14)

Item		MHC (%)	CMD (%)	MHSU (%)	Results
Access to internet at home		115 (54.2)	10 (25.0)	24 (57.1)	χ^2 (2, n = 294) = 12.33, p = 0.002, Cramer's V = 0.2
Home owner		115 (54.2)	13 (32.5)	14 (34.1)	χ^2 (2, n = 293) = 10.28, p = 0.006, Cramer's V = 0.19
Live in self-contained accommodation		209 (98.6)	39 (97.5)	39 (92.9)	Fisher's exact test (n = 294) = 4.95, p = 0.068, Cramer's V = 0.13
Been a victim of crime		16 (7.5)	6 (15.0)	10 (23.8)	Fisher's exact test = 10.37, p = 0.007, Cramer's V = 0.19
In paid employment		75 (35.4)	9 (22.5)	8 (19.0)	χ^2 (2, n = 294) = 6.01, p = 0.049, Cramer's V = 0.14
Get income from paid employment/ employment pension		129 (61.1)	13 (32.5)	7 (18.9)	χ^2 (2, n = 294) = 29.36, p = 0.000, Cramer's V = 0.32
Two or more months in mortgage/rent arrears		56 (26.5)	29 (25.6)	31 (16.2)	χ^2 (2, n = 287) = 1.793, p = 0.406, Cramer's V = 0.079
Managing alright financially		124 (58.5)	9 (23.1)	13 (33.3)	χ^2 (2, n = 290) = 21.74, p = 0.000, Cramer's V = 0.27
Have someone to borrow money from if needed		59 (29.8)	4 (10.8)	7 (18.4)	χ^2 (2, n = 273) = 7.10, p = 0.029, Cramer's V = 0.16
Qualified to A level and above		73 (57.5)	11 (64.7)	14 (66.7)	χ^2 (2, n = 165) = 0.852, p = 0.653, Cramer's V = 0.07
Have a physical health problem		13 (6.1)	11 (27.5)	20 (54.1)	χ^2 (2, n = 289) = 61.47, p = 0.000, Cramer's V = 0.46
Have a mental health problem		0 (0.0)	40 (100)	28 (65.1)	χ^2 (2, n = 295) = 2.39 p = 0.000, Cramer's V = 0.90
No. of friends	0	4 (1.9)	4 (10 0)	3 (8.1)	Fisher's exact test = 17.34, p = 0.001, Cramer's V = 0.17
	1–9	99 (46.7)	27 (67.5)	17 (45.9)	
	10+	109 (51.4)	9 (22.5)	17 (45.9)	
No. of close friends	0	4 (1.9)	2 (5.6)	2 (5.7)	Fisher's exact test = 10.55, p = 0.021, Cramer's V = 0.13
	1	25 (12.0)	10 (27.8)	7 (20.0)	
	2+	179 (86.1%)	24 (66.7)	26 (74.3)	

that every member of the CMD group had a problem, this is a feature of the way in which the group was assembled, i.e. using the MHI-5 cut-off to identify a problem. The MHSU group (SR 6.1) and, to a lesser extent, the CMD group (SR 2.0) were also more likely to have physical health problems. The MHSU group were considerably more likely to report having been a victim of crime (SR 2.5) and less likely to receive income from employment or employment pension than the MHC group (SR –2.8), as were the CMD group but to a lesser extent (SR –1.7).

Table 16 demonstrates that there was no significant association between 'yes' or 'no' responses for self-reported LLTI on home ownership, self-contained accommodation, being a victim of crime, being in arrears with rent or mortgage, financial well-being, having someone to borrow money from, level of educational qualification, or the number of close friends. People with LLTI were less likely to have access to the internet at home, less likely to be in work or receiving income from employment or pension and less likely to report a mental health problem. Understandably, they were more likely to report a physical health problem and appeared to have fewer friends than people without a LLTI.

The results presented in *Table 17* also demonstrate discriminant validity in relation to actual participation, as the three mental health status groups differed significantly on 9 of the 13 items; the groups did not differ in terms of the frequency of family contact or social activity. The MHSU group were considerably more likely than the others to be involved in a local group or organisation (SR 2.4), to have been in full- or part-time education (SR 3.3) or adult learning (SR 2.4) or, but to a lesser extent, to be volunteering (SR 1.7); they were less likely to have friends around to visit (SR –3.1) or to visit friends in their own homes (SR –1.8). The CMD group were

TABLE 16 Objective opportunity items by LLTI

Item		LLTI (%)	No LLTI (%)	Results
Access to internet at home		26 (28.3)	99 (62.7)	χ^2 (1, n=250) = 27.52, p=0.00, Cramer's V=0.00
Home owner		45 (48.9)	83 (52.5)	χ^2 (1, n=250) = 0.31, p=0.58, Cramer's V=0.58
Live in self-contained accommodation		91 (98.9)	155 (98.1)	χ^2 (1, n=250) = 0.24, p=0.62, Cramer's V=0.62
Been a victim of crime		86 (93.5)	142 (89.9)	χ^2 (1, n=250) = 0.94, p=0.33, Cramer's V=0.33
In paid employment		8 (8.7)	75 (47.5)	χ^2 (1, n=250) = 39.41, p=0.00, Cramer's V=0.00
Get income from paid employment/employment pension		37 (40.7)	103 (65.2)	χ^2 (1, n=249) = 14.12, p=0.00, Cramer's V=0.00
Two or more months in mortgage/rent arrears		68 (74.7)	115 (73.2)	χ^2 (1, n=248) = 0.065, p=0.78, Cramer's V=0.80
Managing alright financially		45 (48.9)	88 (56.1)	χ^2 (1, n=249) = 1.12, p=0.28, Cramer's V=0.56
Have someone to borrow money from if needed		20 (24.7)	43 (28.3)	χ^2 (1, n=233) = 0.35, p=0.56, Cramer's V=0.16
Qualified to A level and above		25 (67.6)	58 (69.9)	χ^2 (1, n=143) = 1.86, p=0.173, Cramer's V=0173
Have a physical health problem		22 (23.9)	2 (1.3)	χ^2 (1, n=250) = 34.36, p=0.00, Cramer's V=0.00
Have a mental health problem		69 (75)	142 (89.9)	χ^2 (1, n=250) = 16.49, p=0.00, Cramer's V=0.00
No. of friends	0	5 (5.4)	3 (1.9)	χ^2 (2, n=252) = 8.66, p=0.01, Cramer's V=0.01
	1–9	54 (58.7)	70 (44.3)	
	10+	33 (35.9)	85 (53.8)	
No. of close friends	0	4 (4.3)	2 (1.3)	χ^2 (2, n=250) = 2.38, p=0.30, Cramer's V = 0.30
	1	13 (14.1)	22 (13.9)	
	2+	75 (81.5)	134 (84.8)	

less likely to have voted (SR –1.8) or be involved in a local group (SR –2.3), used sport and entertainment facilities less frequently (SR –2.4) and less likely to be engaged in adult learning (SR –1.5); the CMD group were more likely to walk around the area alone after dark.

A possible explanation for the differences in participation is that the MHSU group are all part of an established support group receiving a variety of services aimed at promoting their recovery including those relating to work and training. The lower levels of participation in the CMD group might be explained by the fact that they were 'ill' at the time of data collection, given that this group was identified on the basis of reporting of present symptoms. Consequently, the CMD group probably were participating less than they might do when they are mentally well. In comparison, the MHSU diagnosed group were relatively speaking 'well' (discharged and surviving in the community – but nevertheless the group least satisfied with their mental health) at the point of data collection. It could also be that some of the common disorders involve phobias such as agoraphobia or social phobia, which, as with other types of anxiety and some forms of depression, are likely to result in reduced contacts and participation, sometimes due to self-exclusion.

Table 18 shows that people with an LLTI were less likely to walk around after dark, to have been in full- or part-time education recently and to be engaged in job-related or adult learning, and they also appeared to have less frequent contact with extended family and friends.

There was no significant association between 'yes' or 'no' responses for self-reported LLTI on involvement in a group, voting behaviour, voluntary participation, visiting and being visited by friends and going out socially.

TABLE 17 Objective participation items by mental health group (P13)

Item		MHC (%)	CMD (%)	MHSU (%)	Results
Currently involved in a group, club or organisation in your area		69 (49.6)	1 (7.1)	28 (82.4)	χ^2 (2, n = 187) = 24.15, p = 0.000, Cramer's V = 0.36
Voted in the general election		147 (70.0)	16 (42.1)	28 (70.0)	χ^2 (2, n = 288) = 11.49, p = 0.003, Cramer's V = 0.20
Participate in voluntary activities		109 (51.4)	23 (57.5)	30 (75.0)	χ^2 (2, n = 292) = 7.66, p = 0.02, Cramer's V = 0.16
Monthly use of sport or entertainment facilities	0–3 times	88 (41.5)	31 (77.5)	20 (46.5)	χ^2 (4, n = 295) = 18.45, p = 0.001, Cramer's V = 0.18
	4–5 times	67 (31.6)	7 (17.5)	12 (27.9)	
	6+ times	57 (26.9)	2 (5.0)	11 (25.6)	
Walk around area alone after dark		112 (52.8)	10 (25.0)	22 (52.4)	χ^2 (2, n = 294) = 10.66, p = 0.005, Cramer's V = 0.19
Been in full- or part-time education in last 12 months		27 (12.7)	3 (7.5)	15 (34.9)	χ^2 (2, n = 295) = 15.72, p = 0.000, Cramer's V = 0.23
Engaged in adult or job-related learning		47 (22.2)	5 (12.5)	18 (41.9)	χ^2 (2, n = 295) = 10.88, p = 0.004, Cramer's V = 0.19
At least annual contact with parents		91 (96.8)	24 (96.0)	21 (91.3)	Fisher's exact test = 1.778, p = NS, Cramer's V = 0.1
At least annual contact with adult children		91 (96.8)	12 (100)	14 (100)	Fisher's exact test = 0.352, p = NS, Cramer's V = 0.084
At least annual contact with other relatives		178 (85.6)	29 (82.9)	31 (81.6)	χ^2 (2, n = 281) = 0.501, p = NS, Cramer's V = 0.042
Friends visit at least weekly		123 (58.3)	17 (42.5)	7 (16.7)	χ^2 (2, n = 293) = 25.37, p = 0.000, Cramer's V = 0.29
Visit friends at least weekly		107 (50.7)	15 (37.5)	11 (26.2)	χ^2 (2, n = 293) = 9.66, p = 0.008, Cramer's V = 0.18 (small)
Goes out socially at least weekly		95 (44.8)	13 (32.5)	20 (47.6)	χ^2 (2, n = 294) = 2.40, p = NS, Cramer's V = 0.09

TABLE 18 Objective participation items by LLTI

Item		LLTI (%)	No LLTI (%)	Results
Currently involved in a group, club or organisation in your area		27 (52.9)	43 (42.6)	χ^2 (1, n = 152) = 1.47, p = NS, Cramer's V = 0.23
Voted in the general election?		63 (70.8)	100 (63.7)	χ^2 (1, n = 246) = 1.28, p = NS, Cramer's V = 0.26
Participate in voluntary activities		43 (46.7)	88 (55.7)	χ^2 (1, n = 250) = 1.87, p = NS, Cramer's V = 0.17
Monthly use of sport or entertainment facilities	0–3 times	64 (69.6)	54 (32.2)	χ^2 (2, n = 250) = 29.52, p = 0.00, Cramer's V = 0.00
	4–5 times	17 (18.5)	56 (35.4)	
	6+ times	11 (12)	48 (30.4)	
Walk around area alone after dark		29 (31.5)	92 (58.2)	χ^2 (1, n = 250) = 16.61, p = 0.00, Cramer's V = 0.00
Been in full- or part-time education in last 12 months		3 (3.3)	27 (17.1)	χ^2 (1, n = 250) = 10.53, p = 0.001, Cramer's V = 0.001
Engaged in adult or job-related learning		8 (8.7)	44 (27.8)	χ^2 (1, n = 250) = 12.95, p = 0.00, Cramer's V = 0.00
At least annual contact with parents		24 (96)	90 (96.8)	χ^2 (1, n = 118) = 0.036, p = NS, Cramer's V = 0.85
At least annual contact with adult children		46 (100)	56 (94.9)	χ^2 (1, n = 105) = 2.408, p = NS, Cramer's V = 0.12
At least annual contact with other relatives		69 (78.4)	136 (88.9)	χ^2 (1, n = 241) = 4.83, p = 0.03, Cramer's V = 0.03
Friends visit at least weekly		49 (53.3)	90 (57.3)	χ^2 (1, n = 249) = 0.388, p = NS, Cramer's V = 0.53
Visit friends at least weekly		36 (39.1)	85 (54.1)	χ^2 (1, n = 249) = 5.23, p = 0.02, Cramer's V = 0.02
Goes out socially at least weekly		36 (39.1)	71 (44.9)	χ^2 (1, n = 250) = 0.80, p = NS, Cramer's V = 0.37

Construct validity

As Phase I of the study had not identified any existing measures of social inclusion, construct validity could not be assessed against a gold-standard measure, and instead was assessed against related measures of participation and social capital. We expected that a proportion of the concept of social inclusion would be made up of social participation, but we were unsure whether or not they might actually be the same thing. We anticipated, therefore, that the Berry community participation measure[69] would be related to the participation items within the SCOPE. We also expected that social capital and inclusion would be related, as to create and make use of social capital one has to interact with others, and so it too would be related to participation. In order to examine these inter-relationships we compared the three social inclusion measures of Perceived Opps for inclusion, SatOpps, and overall SWB with the single question about how socially included people felt, and with the objective opportunity and participation items, the Berry measure[69] and the social capital measure (RG-UK).[114] We expected that these would all be closely related, but were unsure how distinct they might be.

Table 19 shows that the three SCOPE scales correlate more highly with each other than with the measures of participation and social capital. As one might expect, Perceived Opps for inclusion and SatOpps are most highly correlated and share almost two-thirds of their variance. SWB is also highly correlated with Perceived Opps for inclusion and SatOpps for inclusion, all of which are closely associated with the overall inclusion rating; the shared variance with the overall rating is highest among items measured on the same seven-point scale, namely SatOpps and SWB. Objective indicators of opportunity and participation are also correlated significantly with the subjective scales, although the magnitude of the associations was somewhat smaller.

These results are consistent with our previous understanding of subjective measures, which can be expected to be highly correlated with each other and less so with objective indicators.[159] The results indicate that the SCOPE items clearly tap in to the same construct, but support our view that the construct is multifaceted and includes several different components.

Participation (as measured by Berry) was only moderately correlated with the three SCOPE scales and the overall inclusion rating, sharing between 13% and 17% of the variance. Nevertheless, the SCOPE-P13 items correlated more highly with the Berry measure, sharing just over one-quarter of its variance. One would expect that participation would have a reasonably strong relationship with elements of our social inclusion measure, reflecting the fact that in order to be and to feel included one has to participate in society in some shape or form. Clearly, the SCOPE-P13 items are more related to the objective aspects of participation included in the Berry measure than are our subjective indicators. It is reassuring, however, to find that social inclusion is not the same thing, conceptually, as participation alone.

Social capital was associated more closely with SCOPE-O14 items and the Perceived Opps for inclusion scale than any of the other SCOPE scales, but still shared less than one-quarter of the variance, suggesting that the two concepts are related but not the same.

Finally, social capital is related to but not the same thing as participation per se, and shares only 18% of its variance.

Acceptability

In addition to completing the SCOPE long version, the MHSU group were also asked to complete an evaluation form to assess acceptability, completion times, etc. The views expressed in the evaluation were taken into account when creating a shortened version of SCOPE. The mean completion time among this group was 37 minutes (SD 16 minutes; minimum 15 minutes,

TABLE 19 Relationship between the concepts

SCOPE scales		P13: total score – participation items	O14: total score – objective opportunity items	SWB	Perceived Opps for inclusion	SatOpps for inclusion	Community participation	Social capital
O14: total score – objective opportunity items	Pearson's correlation	0.230[a]						
	Significance (two tailed)	0.00						
	n	252						
	Shared variance (%)	5.3						
SWB	Pearson's correlation	0.2877[a]	0.292[a]					
	Significance (two tailed)	0.00	0.00					
	n	252	252					
	Shared variance (%)	8.2	8.5					
Perceived Opps for inclusion	Pearson's correlation	0.330[a]	0.382[a]	0.632[a]				
	Significance (two tailed)	0.00	0.00	0.00				
	n	252	252	252				
	Shared variance (%)	11.0	14.6	39.9				
SatOpps for inclusion	Pearson's correlation	0.338[a]	0.264[a]	0.697[a]	0.779[a]			
	Significance (two tailed)	0.00	0.00	0.00	0.00			
	n	252	252	252	252			
	Shared variance (%)	11.4	7.0	48.6	60.68			
Community participation	Pearson's correlation	0.509[a]	0.249[a]	0.412[a]	0.421[a]	0.417[a]		
	Significance (two tailed)	0.00	0.00	0.00	0.00	0.00		
	n	246	246	246	246	246		
	Shared variance (%)	25.9	6.2	17.0	17.7	17.4		
Social capital	Pearson's correlation	0.259[a]	0.477[a]	0.378[a]	0.478[a]	0.328[a]	0.429[a]	
	Significance (two tailed)	0.00	0.00	0.00	0.00	0.00	0.00	
	n	252	252	252	252	252	246	
	Shared variance (%)	6.7	22.8	14.3	22.9	10.8	18.4	
Overall inclusion	Pearson's correlation	0.307[a]	0.162[a]	0.512[a]	0.407[a]	0.584[a]	0.372[a]	0.259[a]
	Significance (two tailed)	0.00	0.01	0.00	0.00	0.00	0.00	0.00
	n	247	247	247	247	247	241	247
	Shared variance (%)	9.42	2.62	26.21	16.56	34.11	13.84	6.71

a Correlation is significant at the 0.01 level (two tailed).

maximum 2 hours). Most people felt that this was too long, with 85% finding it either much too long or too long ($n = 37$), which is unsurprising given that the purpose of collecting these data was to facilitate data reduction. Participants were asked to rate how important the life domains in SCOPE were to their lives. Overall, 76.9% felt that the domains were relevant compared with 23.1% who did not ($n = 39$). *Table 20* shows the rating for each life domain.

Forty-five per cent of respondents felt that one or more questions were inappropriate. Of the 12 people who outlined which questions were inappropriate and why, eight did not want to answer questions about money, two found the questions too personal and two felt that the questions did not capture their own experiences.

Only 18.9% felt that some questions had not made sense; three people made further comments and highlighted repetition as a problem, which was partly a consequence of including the three different measures of social inclusion, participation and social capital, in the long version.

Sixteen per cent felt that certain additional questions should have been included; further comments elicited single-person suggestions for asking about pets, home interests, involvement with the police through illness, more relevance to older people, sexual health and emotional well-being.

Almost one-half of respondents felt that there were some questions that they would rather not have answered. Thirteen people commented further, with nine saying that they did not want to answer questions about finances. The other four all said that some questions were too personal and intrusive.

Summary

In a sample of people with mental health problems the acceptability of the SCOPE long version was high (with the exception that they said it was too long). The change to opportunities index was not a scale and was excluded from the short version, but had acceptable properties in the MHSU group so might be added to surveys for this group only. Objective and participation variables also had low alpha coefficients and should be analysed individually and not as a scale. Discriminant validity was demonstrated for the Perceived Opps scale, the SatOpps scale and the SWB scale. We recommend, however, that the last is left out of the short version of SCOPE, on the grounds that this is measured in QoL assessments such as the MANSA.

A substudy showed that there are conceptual distinctions between 'participation' and social inclusion (shared variance between 13% and 17%), social capital and social inclusion scales (< 25% shared variance), and social capital and participation (shared variance 18%).

TABLE 20 Mental health service users group evaluation of life domains in SCOPE

Domain	Very important (%)	Quite important (%)	Neither (%)	Quite unimportant (%)	Very unimportant (%)
Leisure and participation ($n = 35$)	42.9	22.9	22.9	8.6	2.9
Housing and accommodation ($n = 39$)	71.8	17.9	5.1	0.00	5.1
Safety ($n = 36$)	63.9	22.2	11.1	0.00	2.8
Work ($n = 34$)	8.8	29.4	35.3	11.8	14.7
Financial ($n = 35$)	57.1	37.1	0.00	2.9	2.9
Education ($n = 35$)	22.99	31.4	28.6	5.7	11.4
Health ($n = 37$)	64.9	27	8.1	0.00	0.00
Family and social ($n = 35$)	51.4	34.3	8.6	2.9	2.9

Component 3: (b) item selection and data reduction

Data reduction

Items that had > 10% missing data or little or no variance, that overlapped considerably ($r > 0.7$) with other item(s) or had low factor loadings across all domains were excluded on the basis they added little to the measure or appeared not to be important components of social inclusion as conceptualised here. As a large proportion of respondents did not like the financial questions, we reduced the number of financial questions and amended some of the response options.

Using descriptive statistics we identified five questions that could be omitted from the questionnaire on the basis of lacking variance, i.e. > 90% of respondents endorsed one response. These items related to internet use, housing tenure, adult learning and contact with children aged < 18 years not living with the respondent. Nine items were omitted because they shared > 50% variance ($r > 0.7$) with another item in the questionnaire. These also related to internet use and contact with adult children living apart from the respondent, as well as work and current study for qualifications. Decisions about which item should be omitted favoured individual-level questions over household-level questions, and engagement in activities over place of engagement. Six separate items relating to face-to-face and telephone contact with parents, children and other family members were replaced by three items focusing on any contact with each of these family groups. Two subjective items relating to feelings about the amount of family contact and feelings about family relationships were excluded in favour of feelings about the range of opportunities for family contact.

The remaining items (minus four demography questions) were then entered into domain-level principal components factor analyses to identify the core components of participation and engagements in each domain, and to determine whether inclusion at this level is unidimensional or multidimensional. The item loadings on the component matrices for each life domain were examined and the highest loading factor items were retained. Although we had intended to use a factor loading cut-off of 0.6, this was raised to 0.7 in most instances in order to reduce the number of items being retained, and so reduce the burden on respondents in future use. The exploratory factor analyses are summarised in *Table 21* and reported in more detail in *Appendix 8*.

For most domains the underlying structure was related to objective and subjective indicators only. However, for leisure and participation, finance, family and social life, and work (for people not in work), desired changes were also an important factor.

The 24 items included in the leisure and participation model related to seven underlying factors. These focused on the availability of and SatOpps for participation, use of, total involvement in and desired changes in participation and leisure, citizenship, and satisfaction with one's own leisure activities.

The 10 housing and accommodation related items had an underlying structure based on socioeconomic indicators, attachment to area and satisfaction with the opportunities to access suitable housing. Safety was associated with two main factors: experience of crime and satisfaction with safety. Two main factors emerged in relation to work, which were based on SatOpps to find work among people who were employed and unemployed; for those in work, the actual number of hours worked per week was important, whereas having a desire to change employment status was the important thing for people not in work.

TABLE 21 Summary of results of factor analysis on life domains in SCOPE

Domain	No. of items	Suitability for factor analysis? i.e. correlations of ≥ 0.3 present in correlation matrix, KMO > 0.6 and statistically significant Bartlett's test of sphericity	Factors retained with eigenvalue of ≥ 1 using Kaiser's criterion (% of the total variance)
Leisure and participation	24	Yes (KMO = 0.77)	7 (62.05)
Housing and accommodation	10	Yes (KMO = 0.67)	3 (61.41)
Safety	6	Yes (KMO = 0.75)	2 (64.26)
Work (employed)	6	Yes (KMO = 0.60)	2 (65.43)
Work (unemployed)	4	Yes (KMO = 0.60)	2 (65.43)
Financial	12	Yes (KMO = 0.78)	5 (72.8)
Education	8	Yes (KMO = 0.60)	3 (58.19)
Health	9	Yes (KMO = 0.81)	4 (63.55)
Family and social	20	Yes (KMO = 0.78)	6 (64.9)

The 12 finance items loaded on to five factors, two objective relating to debt and social capital (having someone from whom they could borrow money if necessary), desire to change income, and subjective indicators of opportunities to increase income and satisfaction with income.

The underlying components of education and health also focused exclusively on objective and subjective indicators, the first relating to highest level of qualification, participation in learning opportunities and satisfaction with those opportunities. Health was associated with objective mental health status, service contact in relation to physical and mental health, SatOpps to access health-care services and satisfaction with one's own health.

Finally, family and social engagement was associated with six factors relating to socialising, family contact, SatOpps for friendship and family contact, and desired change in these areas. These results are reported in more detail in *Appendix 8*.

These analyses produced a measure of 48 items (including four demographic descriptors) (see *Appendix 11)*.

The decision to retain and reject factors was tested using Horn's parallel analysis[129] – see *Appendix 12*. This analysis did actually suggest that additional items could be excluded, resulting in a 21-item questionnaire (Mini-SCOPE) that had poor internal consistency ($\alpha = 0.47$) and in our view could not be used usefully in clinical practice. These reliability and pragmatic issues informed our decision that the additional items should be retained in the SCOPE measure. The Mini-SCOPE is included in *Appendix 13*, for those who are interested.

In accordance with the protocol, we also conducted within-domain item response analyses undertaken using MSP, which did not identify any items that had not been retained by factor analyses. The MSP results (see *Appendix 14*) confirmed that, within each domain, satisfaction items, opportunity items and objective items fail to produce a single scale, which is consistent with existing knowledge based on conventional analysis and our understanding of the nature of the within-domain items. Unlike the conventional analysis, MSP analysis failed to provide cross-domain scales. Within-domain analysis confirmed that SatOpps and Perceived Opps items are related and can be used reliably as two separate scales. MSP analysis suggested that some objective items could be combined to produce within-domain scales, but as the number of items included was usually very small ($n = 2$), this appeared to have little merit over using the individual

items themselves. We therefore retained the separate satisfaction, opportunities and objective items, and retained the questions that both forms of analysis identified as scale components.

Table 22 shows the items that were selected by both the factor analysis and the item response analysis, all of which are included in the short version of SCOPE.

Although most domain-specific SWB ratings loaded on factors along with other subjective ratings of access and opportunities, in the interests of brevity and on the basis of their overlap with Perceived Opps and SatOpps scales, SWB items can be excluded from the SCOPE without detriment to its measurement properties. This decision was made in the knowledge that subjective items are included in QoL life measures such as the MANSA, and on the basis of our belief that social inclusion is a component part of QoL rather than QoL being a part of social inclusion. In the safety domain, two items relating to general and personal safety were replaced by a subjective rating of opportunities to live safely in the area.

Similarly, some items that loaded highly onto the same factor were very similar to and correlated with each other. In this instance, the research team decided, jointly, which item should be retained on the basis of acceptability of the question to respondents, factor loadings and the effect on internal consistency of scales, of removing specific items. Subjective items relating to opportunities to improve health and family and social life were reworded for purposes of clarity.

Finally, and conversely, a small number of objective items relating to being a victim of crime, employment status, personal income, etc., did not reach the amended factor loading cut-off point of 0.7 but were usually in the range of 0.6–0.7, which was the cut-off point we had intended to use originally, so these items were retained for contextual purposes.

On this basis, we were able to reduce the SCOPE from 121 to 48 items (including the four demographic profiling indicators).

TABLE 22 Items retained by both the factor analysis and the MSP item response analysis

Domain	Item
Leisure and participation	Give unpaid help to someone
	Feel about opportunities for sports/leisure
	Feel overall about opportunities to participate in leisure activities
Housing and accommodation	Think about opportunities to access suitable housing
Safety	Generally how safe or unsafe do you feel living in your area?
	How do you feel about your personal safety?
Work	How many hours actually worked in a week?
	Feel about range of opportunities for work that are available?
Finance	Personal annual income
	Find someone to lend taxi fare
	Think about opportunities to increase personal income
Education	Highest qualification you have obtained
	Feel about the range of educational opportunities available
Health	MSP did not find any homogeneous scales or subscales within the health domain
Family and social	Feel about the amount of contact you have with your family
	Have friends or neighbours round to your house
	Overall feel about the extent you are included in society

Summary

All of the SCOPE domains had characteristics that made them suitable for factor analysis (correlations of ≥ 0.3 present in correlation matrix, KMO > 0.6 and statistically significant Bartlett's test of sphericity). Items that had > 10% missing data or little or no variance, which overlapped considerably ($r > 0.7$) with other item(s) or had low factor loadings across all domains were excluded on the basis they added little to the measure or appeared not to be important components of social inclusion as conceptualised here. As a large proportion of respondents did not like the financial questions, we reduced the number of financial questions and amended some of the response options. We removed the SWB ratings, as these are adequately covered by measures such as the MANSA. These procedures reduced the SCOPE long version of 121 items to the SCOPE short version of 48 items. We next examine the psychometric characteristics of the SCOPE short version.

Component 3: (c) psychometric evaluation of the short version

Reliability and validity

Internal consistency

Eight of the SatOpps items (Cronbach's $\alpha = 0.77$) and the five Perceived Opps items (Cronbach's $\alpha = 0.62$) were retained in the SCOPE short version.

Although the alpha coefficient for items included in the SatOpps scale was slightly lower than in the long version, it still fell within the range necessary to demonstrate good internal consistency. The Perceived Opps scale did not quite meet the 0.7 acceptability level, probably because of the small number of items included. Nevertheless, the inter-item correlation for these scale items was 0.251, which is within the optimal limits for scales with a small number of items, indicating that there was a good relationship between the items.

Average scores for the two scales were calculated as the mean of the individual items included in the long (Perceived Opps, $n = 10$, and SatOpps, $n = 12$) and short versions ($n = 5$ and $n = 8$, respectively). The two short-version scales were correlated with their long-version equivalents, in order to explore the strength and direction of the relationship between them. They were then correlated with the scales developed from the excluded items. The health and family and social domains did not have the same items in their scales as these domains both contain subjective well-being items altered to capture satisfaction with opportunity items that were not present in the long version. As the short version uses the highest loading items from the long version, we would expect this relationship to be positive and very strong.

The SatOpps scales correlated at $r = 0.918$, indicating that they shared 84.3% of the variance, which suggests that the loss of four items in the short version does not detract from the scales measurement properties. This was also true (albeit to a slightly lesser degree) of the Perceived Opps scales, which correlated at $r = 0.881$ and shared 77.6% variance. As one would expect, the correlations between the short scales and the excluded items were significant but lower at $r = 0.66$ for the SatOpps scales and $r = 0.60$ for the Perceived Opps scales.

Test–retest reliability

The convenience sample of 188 students had an average age of 23 years (SD 7.7 years; mean 39 years, range 18–57 years); 68% were female and 88% of a white ethnic background. The response rate at 2-week follow-up was 63% ($n = 119$).

Tables 23 and *24* show the relationship between baseline and 2-week follow-up items and scales, in correlations for continuous items, cross-tabulations with kappa tests for dichotomous items. Given the short timescale between data collection points, the intention was to demonstrate stability over time, determined by a strong relationship between items at both time points. As expected, there was a strong relationship between all the variables, with *r*-values ranging from 0.618 to 0.999 and kappa values ranging from 0.663 to 0.965, indicating significant associations between the scores at the two time points. The correlations are all within the range considered to be large.[135] Only one kappa value fell below the good agreement level.

Discriminant validity

The data from the larger community sample were used to populate the items from the short version. The short version of the SatOpps scales had three items that were not present in the long version, and therefore could not be used in the analyses that follow. These were satisfaction with opportunities to live safely and satisfaction with opportunities to access both physical and mental health care when needed. To test whether the short versions of the SCOPE scales were also capable of discriminating between the known groups, the ANOVAs with Tukey HSD post hoc tests examining the impact of mental status or age group on the SCOPE scales scores were repeated using the short-version scales.

TABLE 23 Correlation between continuous short SCOPE items in two time conditions

Item	Correlation (*r*)	Significance (*p*-value)
SatOpps for leisure activities	0.618	0.000
Perceived Opps for involvement with community groups and organisations	0.672	0.000
SatOpps to be involved with community groups/organisations	0.703	0.000
Perceived Opps for suitable housing	0.770	0.000
Years lived in area	0.999	0.000
SatOpps for suitable housing	0.777	0.000
Perceived Opps for suitable work	0.701	0.000
SatOpps to work	0.827	0.000
Annual income	0.643	0.000
SatOpps to increase income	0.747	0.000
Safety of area	0.636	0.000
SatOpps to live safely in area	0.665	0.000
Perceived Opps for education	0.772	0.000
Satisfaction with educational opportunities	0.624	0.000
SatOpps for physical health care	0.741	0.000
SatOpps for mental health care	0.737	0.000
Frequency of visits to GP for physical health	0.895	0.000
Frequency of visits to GP for mental health	0.951	0.000
Frequency of visits to hospital for physical health	0.810	0.000
Frequency of visits to hospital for mental health	0.852	0.000
Contact with parents	0.811	0.000
Subjective opportunities for contact with family	0.678	0.000
Subjective opportunities for contact with friends	0.669	0.000
Number of friends	0.903	0.000
Friends to home	0.829	0.000
Overall inclusion	0.781	0.000

GP, general practitioner.

TABLE 24 Correlation between dichotomous short SCOPE items in two time conditions

Item	Kappa measure of agreement	Significance (*p*-value)
Currently uses leisure, sports or entertainment facilities	0.908	0.000
Desired change to leisure opportunities	0.924	0.000
Voting behaviour	0.965	0.000
Voluntary activities	0.705	0.000
Social capital – borrow money	0.663	0.000

Subjective satisfaction with opportunities score

As in the long version, mental health status had a large ($\eta^2 = 0.18$) and statistically significant association with SatOpps scores [$F(2,291) = 31.54$, $p = 0.000$]. *Table 25* illustrates that MHC scores were significantly higher than those for the CMD and MHSU groups, and the scores for both mental illness groups did not differ significantly from each other, which is the same pattern of results as for the SCOPE long version. On average, MHC mean scores were 0.86 higher than the MHSU group and 0.79 higher than the CMD group, but MHC scores could be anything between 0.54 and 1.18 points higher than those of the MHSU group and between 0.47 and 1.12 points higher than the MHSU group.

Age had a medium ($\eta^2 = 0.08$) and statistically significant association with SatOpps scale score [$F(3,248) = 7.46$, $p = 0.000$]. Adults of working age scored on average 0.48 points less than the 65- to 74-year-old group (95% confidence interval –0.84 to –0.12 points) and 0.53 points less than the 75- to 84-year-old group (95% confidence interval –0.90 to 0.15 points). There was no significant difference between the scores in the ≤ 64 and the ≥ 85 years groups.

The SatOpps score of the second user sample (MHSU2, $n = 40$) was 3.95 (SD 1.06 points), which, compared with the healthy community group, suggests that there is some scope for improvement.

Perceived opportunities score

Similarly, Perceived Opps differed significantly according to mental health status [$F(2,291) = 10.098$, $p = 0.000$], although the magnitude of this effect was medium rather than large ($\eta^2 = 0.06$). *Table 26* shows that the pattern of results was somewhat different than for SatOpps, in that scores for the MHC group did not differ significantly from those of the MHSU group, but did differ significantly from those of the CMD group. On average, scores were 0.71 points higher in the MHC group than in the CMD group and 0.29 points higher than in the MHSU group.

The different age groups did not have a significant association with the Perceived Opps (short version) score. It was not appropriate to use an ANOVA test owing to the non-homogeneity of variance as indicated by the Levene statistic (Levene = 13.23, $p = 0.00$), so Welch and Brown–Forsythe tests were used instead [Welch = 2.293 (df 3, 41.79), p = NS; Brown–Forsythe = 1.642 (df 3, 43.28), p = NS].

The second MHSO group (MHSU2, $n = 40$) had a mean score on the Perceived Opps scale of 2.68 (SD 0.079), which also suggests room for improvement in the NHSU2 group compared with the healthy community group.

Construct validity

The SatOpps scale and the Perceived Opps scale from the short version were assessed against the related measures of participation and social capital, as well as the overall inclusion rating and O14 and P13 indices.

TABLE 25 Satisfaction with opportunities score (short version) by mental health status group (eight items: minimum score = 1, maximum score = 7)

					95% confidence interval	
Effect size (η^2) = 0.18 (large)	Mean (SD)	Mean difference		*p*-value	Lower bound	Upper bound
CMD	4.22 (0.92)	MHC	–0.79	0.00	–1.12	–0.47
		MHSU	0.07	0.92	–0.35	0.49
MHC	5.01 (0.76)	CMD	0.79	0.00	0.47	1.12
		MHSU	0.86	0.00	0.54	1.18
MHSU	4.15 (0.87)	CMD	0.07	0.92	–0.49	0.35
		MHC	–0.86	0.00	–1.18	–0.54

TABLE 26 Perceived opportunities score (short version) by mental health status (five items: minimum score = 1, maximum score = 5)

					95% confidence interval	
Effect size (η^2 squared) = 0.06 (medium)	Mean (SD)	Mean difference		*p*-value	Lower bound	Upper bound
CMD	2.46 (1)	MHC	–0.71	0.00	–1.09	–0.32
		MHSU	–0.42	0.104	–0.91	–0.06
MHC	3.16 (1)	CMD	0.71	0.00	0.32	1.09
		MHSU	0.29	0.163	–0.08	0.65
MHSU	2.88 (0.81)	CMD	0.42	0.104	0.06	0.91
		MHC	–0.29	0.163	–0.65	0.08

We expected that there would be little difference from the results of the construct validity testing of the long SCOPE, in that there would be a higher correlation between the SCOPE scales than between the measures of participation and social capital; it was anticipated that the highest correlation would be between Perceived Opps for inclusion and SatOpps for inclusion. We also expected that again the objective indicators would correlate significantly but less strongly with the subjective scales. The results shown in *Table 27* indicate that these assertions were true.

Alternative approaches

Horn's parallel analysis

Horn's parallel analysis results (short version)

Using the Horn approach, which compares the eigenvalues of the data set with a randomly generated data set of the same size, produced using the Monte Carlo PCA for parallel analysis program.[130] Components with PCA eigenvalues that were lower than the parallel analysis eigenvalues were rejected. The suitability of the data for factor analysis was assessed using Bartlett's test of sphericity (which should be significant at $p < 0.05$) and the KMO measure of sampling adequacy (which should be a minimum of 0.6).

The number of items that remains is 21 (see *Appendix 13* Mini-SCOPE). The alpha coefficient of these items was 0.48, suggesting that they do not constitute a useable scale.

As *Appendix 15* shows, this method produced less good results than the factor analytic solution itself, and was less able to discriminate among the known mental health groups: MHC, CMD and MHSU.

TABLE 27 Relationship between the concepts (short version)

		P13: total score participation items	O14: total score objective opportunity items	SWB	Perceived Opps for inclusion (short)	SatOpps for inclusion (short)	Community participation	Social capital
O14: total score (objective opportunity items)	Pearson's correlation	0.230[a]						
	Significance (two tailed)	0.00						
	n	252						
	Shared variance (%)	5.3						
SWB	Pearson's correlation	0.2877[a]	0.292[a]					
	Significance (two tailed)	0.00	0.00					
	n	252	252					
	Shared variance (%)	8.2	8.5					
Perceived Opps for inclusion (short)	Pearson's correlation	0.223[a]	0.278[a]	0.538[a]				
	Significance (two tailed)	0.00	0.00	0.00				
	n	251	251	251				
	Shared variance (%)	5.0	7.7	28.9				
SatOpps for inclusion (short)	Pearson's correlation	0.259[a]	0.260[a]	0.747[a]	0.678[a]			
	Significance (two tailed)	0.00	0.00	0.00	0.00			
	n	252	222	252	251			
	Shared variance (%)	6.7	6.8	55.8	46.0			
Community participation	Pearson's correlation	0.509[a]	0.249[a]	0.412[a]	0.247[a]	0.380[a]		
	Significance (two tailed)	0.00	0.00	0.00	0.00	0.00		
	n	246	246	246	245	246		
	Shared variance (%)	25.9	6.2	17.0	6.1	14.4		
Social capital	Pearson's correlation	0.259[a]	0.477[a]	0.378[a]	0.322[a]	0.284[a]	0.429[a]	
	Significance (two tailed)	0.00	0.00	0.00	0.00	0.00	0.00	
	n	252	252	252	251	252	246	
	Shared variance (%)	6.7	22.8	14.3	10.4	8.1	18.4	
Overall inclusion	Pearson's correlation	0.307[a]	0.162[a]	0.512[a]	0.284[a]	0.523[a]	0.372[a]	0.259[a]
	Significance (two tailed)	0.00	0.01	0.00	0.00	0.00	0.00	0.00
	n	247	247	247	246	247	241	247
	Shared variance (%)	9.42	2.62	26.21	8.1	27.4	13.84	6.71

a All correlations are significant at least at the 0.01 level.

Mokken scaling for polytomous items

The item response theory analysis was repeated on the SCOPE short version using MSP5 FOR WINDOWS (Science Plus Group bv, Groningen, Netherlands).[127] The analysis was conducted using the 'test' procedure, akin to confirmatory factor analysis. Analysis was conducted within each domain to explore if items fit a homogeneous scale or if, failing that, they fit into more than one homogeneous scale within the domain.

For each domain, data were prepared for MSP5 by recoding all values in ascending order, with lower values representing less objective or subjective social inclusion. Dichotomous variables were coded '0 = no' and '1 = yes', unless reverse coding was indicated by the nature of the question. Missing values were recoded as '9'. Continuous variables were recoded as polytomous variables with a maximum of five categories.

Leisure domain

There were eight items in the leisure domain of the SCOPE short version (questions 1–8). However, they did not form a homogeneous scale (scale $H = 0.25$). Searching for scales within the domain also did not produce any notable findings.

Housing domain

There were five items in the housing and accommodation domain (questions 9–13). They also did not form a homogeneous scale (scale $H = 0.17$). Two subscales were identified by the search procedure, but they violated assumptions of monotonicity and are hence unusable.

Employment domain

There were five items in the employment domain (questions 14–18). For the purpose of analysis, questions 16 and 18 were combined as they both measured satisfaction with employment status. The four items subsequently entered into MSP did not form a homogeneous scale (scale $H = 0.29$). However, when the search procedure was used, MSP identified that questions 14 and 16, both about employment opportunities, were measuring the same concept but were not large enough to form a useable scale.

Financial domain

There were six items that related to financial matters (questions 19–24). Question 22 was derived from the RG-UK,[114] which is primarily concerned with presence or absence of a potential resource within a network. The follow-up question (question 23) about strength of tie which the resource could be accessed through is of secondary importance and was not included in this analysis. Hence, analysis in MSP was conducted on the remaining five items.

The five items formed a scale with modest, though acceptable, homogeneity (scale $H = 0.46$) with an acceptable reliability ($\rho = 0.74$). The weakest item in the scale was question 22, which is understandable, as it measures resourcefulness of an individual's social network rather than his or her personal income, unlike the other items. When this item is excluded, the scale becomes stronger (scale $H = 0.49$, $\rho = 0.75$) and has no significant violations of monotonicity.

Safety domain

We were not able to perform a meaningful analysis on this domain as there were data on only two items (questions 25 and 26). Question 27 was a late addition to the short version and there were no data available for analysis.

Education domain

There were four items in the education domain (questions 28–31). The four items could be combined into a weak subscale (scale $H = 0.41$, $\rho = 0.73$), although with the removal of questions

28 and 29 the two-item scale becomes more robust (scale $H = 0.83$, $\rho = 0.86$). Questions 30 and 31 both measure educational opportunities so it is understandable that MSP identifies that they are measuring the same latent trait, but in reality two items are too few to form a subscale.

Health domain

There were six questions in the health domain (questions 32–37). There were no data available on questions 36 and 37 so analysis was conducted on questions 32–35. All four questions measured the same concept (visit to a health professional for a mental or physical health problem) and MSP identified them as measuring the same latent trait (scale $H = 0.68$, $\rho = 0.81$). There were no significant violations of monotonicity and hence they formed the most robust subscale in SCOPE.

Family and friends domain

The final domain consisted of seven questions (questions 38–44). Question 43 was a new addition, so analysis was conducted on six items. These items did not form a homogeneous scale. However, the search procedure in MSP identified that questions 39, 40 and 44 formed a weak scale (scale $H = 0.37$) with modest reliability ($\rho = 0.53$). This analysis suggests that contact with parents and family and feelings about wider social inclusion appear to relate to the same latent trait. However, caution should be noted as to the very weak nature of this subscale.

Conclusion

This analysis has found that to a significant extent items within domains are measuring distinct elements of social inclusion. On the basis of this form of analysis it would be unwise to aggregate scores from within a domain to measure inclusion, but responses to questions should instead be compared with national averages.

The SCOPE short version contained only a limited number of the items from the Mokken scale analysis of the long version, so these results are a consequence of this fact. In the next stage of our research, we will create another measure (MokkenSCOPE), based only on the valid scale items produced by the long-version analysis. We will then compare the instruments results and see which has the more acceptable reliability and validity. This exercise will not diminish the potential value of the current SCOPE, which, with the exception of a robust test or responsiveness, has sufficiently good properties to be adequate for use in comparative research and has better discriminant validity between groups than the Mokken version (see *Appendix 16*).

We have undertaken more preliminary work on sensitivity to change and responsiveness, and will continue to do so beyond the publication of this report.

Acceptability

The students also completed the evaluation form to assess the acceptability of the SCOPE short version compared with that of the long version as assessed by MHSUs. The mean completion time was now just 8.7 minutes (minimum 2 minutes, maximum 10 minutes). Ninety-three per cent ($n = 27$) of the students felt that this was just right, and 90% ($n = 26$) felt that the domains in SCOPE were relevant to their lives. *Table 28* shows their ratings for each life domain.

Summary

The short version includes items that almost all students thought were very or quite important to overall social inclusion. We found that there was little difference from the results of the construct validity testing of the SCOPE long version, and that there was a higher correlation between the

SCOPE scales than with the measures of participation and social capital; the highest correlation was between Perceived Opps for inclusion and SatOpps for inclusion. The objective indicators correlated significantly but less strongly with the subjective scales. Discriminant validity resulting from Horn and MSP analysis was poorer than the conventional factor analytic solution. Neither the Horn nor MSP analysis produced convincing evidence for the existence of any useful scales.

Component 4: field and beta testing

The SCOPE short version has been, and continues to be, applied in mental health services and other services in order to examine its responsiveness and applicability in different settings. This phase of the study has proved somewhat difficult in terms of engaging with services, and it has been necessary to adopt a variety of approaches to administration in a larger number of services than was anticipated originally.

Service 1

One community mental health service based in London has the specific aim of improving social inclusion in people with severe mental health problems. Agreement was reached with this service for participation in the study and on the methods by which data would be collected; disappointingly, in the event only one completed form was returned.

The SCOPE was piloted in this team during September and October 2009. It was primarily used in the setting of a gym group, as the team itself was not taking on new referrals for other social inclusion activities at that time. As many of its domains were not relevant to the activity of the group, only the health and leisure domains were completed ($n = 5$). One full SCOPE was completed (taking 1.5 hours) and three practitioner feedback forms were completed on their experience of using SCOPE.

The following observations were noted in a feedback meeting with the team on 20 October 2009. The team members primarily commented on the clinical application of SCOPE in their setting, which they acknowledge is quite specialised and atypical for mental health services. Their work is goal orientated and they did not think that the SCOPE could help with goal setting (not that the SCOPE was designed to do so). They suggested that the SCOPE may be more appropriately piloted in a CMHT setting. One problem relating to the introduction and use of the SCOPE was that they also routinely use other outcome measures such as More Effective Community Care (MECCA) [now known as DIALOG (scale for more effective community care of psychosis)]. While this would have provided an opportunity for further construct validation, team members

TABLE 28 Student group evaluation of life domains in SCOPE

Domain	Very important (%)	Quite important (%)	Neither (%)	Quite unimportant (%)	Very unimportant (%)
Leisure and participation ($n = 29$)	48.3	44.8	3.4	3.4	0.0
Housing and accommodation ($n = 28$)	64.3	25.0	3.6	3.6	3.6
Safety ($n = 29$)	69.0	24.1	6.9	0.0	0.0
Work ($n = 29$)	51.7	41.4	3.4	0.0	3.4
Financial ($n = 29$)	72.4	24.1	3.4	0.0	0.0
Education ($n = 29$)	65.5	34.5	0.0	0.0	0.0
Health ($n = 29$)	79.3	20.7	0.0	0.0	0.0
Family and social ($n = 29$)	82.8	17.2	0.0	0.0	0.0

felt that using the SCOPE in addition to existing measures was burdensome and did not provide added value.

Some team members felt that SCOPE was not person centred and the census-type questions were not amenable for use in a clinical setting. The closed questions did not allow for elaboration of the service user's views. Some found the 'delighted–terrible' scale difficult to complete, although this is not a problem reported in previous research and evaluation, despite its extensive use in mental health settings internationally. Finally, they felt that it had limited clinical applications in their team, but may be more beneficial for care coordinators.

On a positive note, they felt that the domains were largely appropriate for a social inclusion measure and that the questions about the social environment may be generally useful for care planning. The community focus is useful for a social inclusion service so if used systematically it may produce useful data for the service. They also felt that it could be self-completed by more literate service users.

In summarising this feedback, one of the applicants (MW) concluded that the largely negative response to SCOPE from this team reflected more on the way the team operated than on any shortcomings that the SCOPE might have. In the sections that follow it becomes clear that this conclusion might bear some truth as, in contrast, most of the feedback from other services in London and Wales was positive. Importantly, most service users did not take long to complete the short version of SCOPE.

Service 2

As a result of the response (or lack of response) from the first service, it was necessary to revise our plans and engage with other services. We reached an agreement with an assertive outreach service, which also aims to tackle social exclusion, that is located nearer to the research team's base, in Newport, Gwent. Because time was short, we organised two methods of assessing responsiveness, one retrospective and one prospective. The team in Gwent has completed a retrospective SCOPE (based on case records, standardised assessments and continuous worker contact) on service users known to the team since its inception, by workers who have known them since the time of referral. These data were supplemented by current SCOPE data collected in the form of an interview with the same users. Retrospective assessment is subject to potential bias of recall, and also of inter-rater reliability given that workers tend to rate things differently to the service user themselves.[160] Therefore, we have also arranged for a follow-up assessment 12 months after the first interview with the service user, which will constitute the final prospective SCOPE field testing of responsiveness in clinical practice where an intervention has been provided.

In the retrospective method, two support workers who had known the patients well since they came to the service completed the SCOPE using case records and personal opinion to rate the patients as they were when they were accepted into the service. They then interviewed the patients again and completed a current SCOPE. Paired *t*-tests, correlation and repeated measures regression analysis have been undertaken on these data. For the same service users a repeat interview after 12 months was arranged. Only a small number of cases are available in the prospective group within the study time period, but these data will go on being collected by the service beyond the end of the funding period.

A much more positive feedback came from the Assertive Outreach team manager (AG), who said that the SCOPE was clear and easy to complete and the time taken was acceptable. The two support staff who undertook the retrospective ratings found it straightforward and acceptable.

Responsiveness

The attempt to complete a retrospective assessment based on proxy SCOPE ratings provided by support workers and then interviews with the same users in the present ($n = 7$) did not work well. Although there was a trend for users to feel better about their mental health problems (paired t-test = –2.29, df 6, $p = 0.06$), for three items (opportunities to participate in groups, work and overall social inclusion), the users' own ratings were lower at follow-up than the proxy ratings at Time 1. This could reflect a real deterioration in their subjective feelings of inclusion or, more likely, the proxy ratings overestimated their subjective feelings about their level of inclusion.

There were some indications that change had taken place over time. For instance, the proportion reporting that they had someone from whom they could borrow a small amount of money increased from 66% to 100%. The proportion of people reporting that they have more than two people that they would call a friend rose from 33% to 86%. Mean ratings of satisfaction with family contacts increased from 4.5 (SD 1.7) to 5.0 (SD 1.2), but this was not a significant change.

We therefore set up a prospective responsiveness test so that the same service users complete the SCOPE after 6 months and 12 months. These data are being gathered, but the follow-up data will fall outside the project timescale. Swansea University has renewed the contract of the research assistant so that these data can be gathered and the findings published separately.

Service 3

The third service is an independent sector service and has hubs across south Wales. The project that we engaged with aims to tackle social exclusion in a mixed client group, including people with mental health problems and those who are homeless. People access the service through referral from community mental health services. The service offers part-time courses, a social club, and life skills development. We offered the users of this service a £10 high street shopping voucher per questionnaire as an incentive to participate. Forty people have completed a Time 1 questionnaire. Given the nature of the service provided in this setting, user attendance at project meetings is unpredictable and only 11 have completed the second SCOPE after a 3-month period.

Data collection is ongoing in this service but, again, the final follow-up data will fall outside the project timescale.

Given the small follow-up sample size the analysis that follows is presented primarily to show how we propose to assess change, rather than to give a generalisable set of findings. Guidance on scoring and assessing change is included in the SCOPE User Guide (see *Appendix 7*). Although this sample may not be an ideal one in the sense of demonstrating change (as Time 1 is not a genuine baseline measure at the start of the intervention) if inclusion improves incrementally over time then this ought to be observable in such a sample.

Sensitivity to change and responsiveness

Our approach to these issues is described in more detail in *Appendix 5*.

Sensitivity to change is ability to capture any change at all, and responsiveness is the ability to capture clinically important change. Simple changes on the SCOPE, such as not having a job at Time 1 but having one at Time 2, are the equivalent of clinically significant change, in that they show a major feature of social inclusion has been achieved. Losing a job would be equally significant in terms of weakening inclusion.

For continuous variables and scales, Cohen's effect size seems to the most appropriate to use; it is the ratio of the mean change to the SD of the baseline scores.

Paired-sample *t*-tests were conducted on the SatOpps score, the Perceived Opps score and the overall inclusion score in order to examine sensitivity and responsiveness over time. We then explored further by conducting paired-sample *t*-tests on the components of the SatOpps scale and the Perceived Opps scale.

Satisfaction with opportunities

There was no statistically significant difference in satisfaction with opportunity scores between the two time conditions [Time 1, mean = 4.38, SD = 0.92; Time 2, mean = 4.47, SD = 1.17; $t\,(10) = -0.39$, $p > 0.05$ (two tailed)]. Effect size using $\eta^2 = 0.02$ is small.[137]

Perceived opportunities

There was not a statistically significant difference between the Perceived Opps in the two time conditions [Time 1, mean = 2.95, SD = 0.92; Time 2, mean = 3.04, SD = 0.61; $t\,(10) = -0.51$, $p > 0.05$ (two tailed)]. Effect size using $\eta^2 = 0.03$, is small.[137]

Overall inclusion

There was no statistically significant difference in the overall inclusion scores between the two time conditions [Time 1, mean = 4.6, SD = 1.12; Time 2 mean = 4.8, SD = 1.03; $t\,(10) = -1$, $p > 0.05$ (two tailed)]. Effect size using $\eta^2 = 0.1$ is moderate.[137]

There seems to be a good argument for using the 0.5 figure as a reasonable approximation to a 'threshold of important change'. Furthermore, 'there is remarkable consistency in the empirical estimates of minimal change across a large variety of scaling methods, clinical conditions, and methodologies to estimate minimal change'.[137] We adopt this approach, but note that in previous work with the delighted–terrible scale it appears that movement of 1 point out of 7 is frequently statistically significant, and it would appear that a movement of at least 1 point on the scale can be clinically meaningful also.

None of the scales above reached the moderate effect size of 0.5.

As *Table 29* shows, the *t*-tests conducted on the individual items that constitute the scales above demonstrate a significant difference in two of the items: SatOpps to be involved in community groups and Perceived Opps. Eight other items were statistically not significant but had large effect sizes, but none reached the 0.5 threshold. A larger sample might amplify these results. Not all of the items show improvement. As the economic circumstances continued to decline in this data collection period it may have been more difficult to find jobs, hence the deterioration in the SatOpps to find suitable work.

The impact appears to be in the area of community group availability and participation. Sime's adjustment suggests that both of these results may be due to multiple testing.

The *minimally important difference*, often used in clinical contexts, has been shown to be almost exactly equal to Cohen's moderate effect size of 0.5. There seems to be a good argument for using the 0.5 figure as a reasonable approximation to a 'threshold of important change'. Furthermore, 'there is remarkable consistency in the empirical estimates of minimal change across a large variety of scaling methods, clinical conditions and methodologies to estimate minimal change'.[137] We adopt this approach, but note that in previous work with the delighted–terrible scale it appears that movement of 1 point out of 7 is frequently statistically significant, and it would appear that a movement of at least one point on the scale can be clinically meaningful also.

Jacobsen *et al.*[161] outlined three criteria for evaluating change in individuals. The baseline score should be within the range found for known dysfunctional groups (in our case, people with

serious mental illness); the score at the end should fall within the 'normal' range (in our case, healthy people in the community) and the amount of change is more than would be expected by measurement error. It may be that long-term intervention to improve social inclusion, probably incrementally, should use this type of approach to change measurement at group and individual level, as in psychotherapy.[162]

In our study we have used the reliable change index to take account of measurement error.[170] Hageman and Arrindell[163] modified this to account for regression to the mean.

As indicated earlier, MHSU2 is based on only 11 cases and is included to illustrate methods of analysis, so the change data in the following tables (*Tables 30* and *31*) should be taken as only indicative of the final sensitivity and responsiveness analyses to be undertaken and the method of presentation.

TABLE 29 Mental health service user group 2 paired *t*-tests: Time 1 and Time 2

Scale	Item	Mean (SD)	*t*-test
SatOpps	SatOpps to participate in leisure activities	Time 1: 4.56 (1.1) Time 2: 4.78 (1.4)	$t(8) = -0.512$, p = NS, $\eta^2 = 0.03$ is small
	SatOpps to be involved in community groups	Time 1: 4.55 (1.5) Time 2: 5.00 (1.5)	$t(10) = -2.193$, $p = 0.05$, $\eta^2 = 0.3$ is large
	SatOpps to access suitable housing	Time 1: 3.45 (1.1) Time 2: 3.09 (0.8)	$t(9) = -0.264$, p = NS, $\eta^2 = 0.01$ is small
	SatOpps to find suitable work	Time 1: 4.38 (1.3) Time 2: 3.62 (1.8)	$t(7) = -1.426$, p = NS, $\eta^2 = 0.2$ is large
	SatOpps to secure additional income	Time 1: 3.55 (1.4) Time 2: 4.00 (1.8)	$t(10) = -1.242$, p = NS, $\eta^2 = 0.1$ is large
	SatOpps to live safely in own area	Time 1: 4.36 (1.6) Time 2: 4.55 (1.6)	$t(10) = -0.559$, p = NS, $\eta^2 = 0.03$ is small
	Satisfaction with educational opportunities	Time 1: 4.43 (1.4) Time 2: 5.0 (1.2)	$t(6) = -1.082$, p = NS, $\eta^2 = 0.2$ is large
	SatOpps to access physical health care	Time 1: 4.50 (1.4) Time 2: 4.50 (1.9)	$t(10) = 0.00$, p = NS, $\eta^2 = 0.0$ is small
	SatOpps to access mental health care	Time 1: 3.89 (1.5) Time 2: 3.78 (1.7)	$t(8) = 0.206$, p = NS, $\eta^2 = 0.01$ is small
	SatOpps for contact with your family	Time 1: 5.09 (1.5) Time 2: 4.64 (1.9)	$t(10) = 1.0$, p = NS, $\eta^2 = 0.1$ is large
	SatOpps for contact with your friends and neighbours	Time 1: 5.00 (1.1) Time 2: 5.27 (1.2)	$t(10) = -1.936$, p = NS, $\eta^2 = 0.3$ is large
Perceived Opps	Perceived Opps in community groups and organisations	Time 1: 2.89 (1.2) Time 2: 3.44 (1.1)	$t(8) = -2.294$, $p = 0.05$, $\eta^2 = 0.4$ is large
	Perceived Opps to access suitable housing	Time 1: 3.45 (1.1) Time 2: 3.09 (0.8)	$t(10) = 1.174$, p = NS, $\eta^2 = 0.1$ is large
	Perceived Opps to acquire suitable work	Time 1: 2.62 (1.2) Time 2: 3.00 (1.1)	$t(10) = 1.174$, p = NS, $\eta^2 = 0.1$ is large
	Perceived Opps to increase personal income	Time 1: 2.22 (1.3) Time 2: 2.67 (0.5)	$t(8) = -1.180$, p = NS, $\eta^2 = 0.1$ is large
	Perceived Opps in availability of educational opportunities	Time 1: 3.20 (1.3) Time 2: 3.40 (1.0)	$t(9) = -0.557$, p = NS, $\eta^2 = 0.03$ is small

TABLE 30 Objective items by mental health group (06 short version)

SCOPE						
				MHSU2		
Item		Survey source	Survey result (%)	Time 1	Time 2	Change
Been a victim of crime		British Crime Survey[145]	7	5 (12.5%)	3 (27.3%)	Increase and worse than norm
In paid employment		British Household Panel Survey 2007[140]	50	3 (7.7%)	1(9.1%)	Increase but worse than norm
Get income from paid employment/ employment pension		Health Survey for England 2006[139]	73	3 (7.5%)	1 (9.1%)	Increase but worse than norm
Have someone to borrow a small sum of money from if needed		Resource Generator UK[114]	89	34 (85%)	9 (90%)	Increase to norm level
Qualified to A level or above		General Household Survey[147]	35.2	12 (32.4%)	2 (20%)	Decrease and worse than norm
No. of friends	0	Citizenship Survey, also known as 'People, Families and Communities'[142]	7.2	N/A	N/A	Increase and better than norm
	1–9		84.3	19 (61.3%)	5 (71.4%)	
	10 +		5.3	12 (38.7%)	2 (28.6%)	

N/A, not available.

TABLE 31 Objective participation items by mental health group (P6 short version)

P7 scale					
			MHSU2		
Item	Survey source	Survey result (%)	Time 1	Time 2	Change
Currently involved in a group, club or organisation in your area	Health Survey for England[139]	N/A (modified question)	11 (30.6%)	3 (30%)	Slight decrease
Voted in the general election?	British Household Panel Survey[140]	58.6	28 (71.8%)	7 (70%)	Slight decrease
Participate in voluntary activities	Citizenship Survey, also known as 'People, Families and Communities'[142]	N/A (modified question)	17 (44.7%)	5 (45.5%)	Slight increase
Been in full- or part-time education in last 12 months	Family and Children Survey[164]	26.9	6 (16.2%)	1 (12.5%)	Decrease
At least annual contact with parents	Home Office Citizenship Survey 2001[165]	N/A	16 (94.1%)	5 (83.3%)	Decrease
Friends visit at least weekly	Home Office Citizenship Survey 2001[165]	(modified question)	9 (23.1%)	7 (63.6%)	Considerable increase

N/A, not available.

Service 4

Service 4 is a residential rehabilitation unit that aims to provide short-term placement (maximum of 2 years) before users are able move on to more independent living arrangements. The service targets adults who are all on enhanced Care Programme Approaches (CPAs). Research staff met with HK (Senior Lecturer in Rehabilitation Psychiatry) and RB (Team Manager) on 25 February 2010 to establish the prospective responsiveness test. Team members were not able to devote staff time to administering questionnaires but were willing for research staff to administer them.

Research governance approval was sought on this basis, and granted. Feedback on the SCOPE was positive, and a small number of minor issues were resolved (see *Appendix 17*). After this visit the team agreed to become involved with a more local (London) medical school social inclusion research project, and postponed the meeting at which data collection was to be agreed and conducted with service users. No further meetings took place after this.

Service 5

Service 5 is a user-led independent sector service, based in Cardiff. This service takes a holistic approach to overcoming depression through guided self-help, building the foundations for sustainable and long-term well-being. The service also provides information, practical resources, services and training to promote the development of recovery skills and strategies.

Chapter 4

Discussion

In this chapter we discuss the study findings within the context of the study's aims and objectives, its design strengths and limitations, and previous research evidence. First we locate the process of developing and testing the SCOPE instrument within the original design, highlighting the difficulties that were encountered and discussing the implications of the amendments to the protocol that resulted. We then examine the level and nature of social inclusion of different population samples, and compare and contrast the findings with those from the emerging literature.

Study strengths and limitations

The study benefits from a robust design and methodology that facilitated the development of a reliable and valid instrument measuring subjective and objective aspects of social inclusion. Nevertheless, like all studies it has been subject to some limitations, which might have impacted upon the reliability of the findings and generalisability of results. One possible limitation is that our general population sample slightly over-represents people aged ≥ 65 years, who are retired, and those with LLTI. Another limitation is that the MHSU sample is a relatively healthy group of people in recovery, who one might expect to be more included than people with SMI currently in receipt of care. We attempted to remedy this issue by collecting a sample of open cases of community mental health teams receiving interventions aimed at improving inclusion (MHSU2) ($n = 40$). The demographics of this sample was very similar to, but slightly older than, the first service user sample (MHSU) (see *Table 8*). Data collection at 3 months ($n = 11$) showed some evidence of changeover but the remaining data are still being collected. This service user sample had been in regular contact with services, 54.5% for over 6 months, 18% of whom had been in contact for > 1 year. Nevertheless, neither MSHU sample is ideal for demonstrating sensitivity to change and responsiveness; a more appropriate sample would be recently discharged patients assessed at Time 1 shortly after discharge and then again after 6 months and 1 year, ideally in a randomised controlled trial (RCT) of the complex variety. The impact on social inclusion, even of dedicated services, may not emerge for many months, and may well be incremental, so a medium- and longer-term follow-up is required.

The threshold for likely presence of CMD might have been set too low, leading to the exclusion in this group of some people having relatively few symptoms of mental ill health. Any of these potential sources of bias might make it difficult to demonstrate discriminant validity between the three known groups, which could undermine the validity of the instrument. These issues are discussed later in this chapter.

Other limitations relate to the difficulties in sustaining the use of SCOPE in clinical and other services, which has limited our capacity to demonstrate responsiveness over time, to date. Nevertheless, in all other respects the study has achieved its main aim of producing an instrument that has good psychometric properties, is acceptable to respondents (whether mentally and/or physically healthy or unwell) and has good discriminant validity between known groups (e.g. people who are mentally healthy and people who have common or severe mental health problems, and between people with and without LLTI).

Challenges in developing the SCOPE

The difficulties in obtaining the responsiveness characteristics of the instrument have been documented in *Chapter 3*. Difficulties of recruitment to, and participation in, research are not new, particularly in relation to social aspects of health and care. Nevertheless, in recent years, research and development groups in the Mental Health Research Network Cymru (MHRN-C) have reported increasing difficulty in recruiting research sites, despite the continuing improvements in, and rationalisation of, research and development and ethical approval mechanisms (K Lloyd, Director, MHRN-C, 2009, personal communication). Access might be denied at several levels: senior management, front-line management and team member levels. Recruitment of patients (or service users) can be a problem, even in sites that have management approval, which can cause problems in achieving target sample sizes, even in RCTs. Some of these issues relate to the role of front-line staff and managers, who act protectively towards their service users and the content of their own work with them. Gate-keeping of this kind is not unprecedented. Lee[166] identified issues that may arise with regard to gate-keeping in clinical research that can cause difficulties for the researcher, and Holloway and Wheeler[167] have suggested that access may be denied for professional, practical or personal reasons. For example, they indicated that access might be denied because the research raises sensitive issues, is considered unethical (despite having ethical approval) or not of benefit, or in order to 'protect' vulnerable participants. Alternatively, the gate-keeper might fear that an observer would disturb the setting, as staff on the ward may become conscious of having their 'every movement watched'. Finally, personal characteristics such as a lack of interest in research or the research topic, a dislike or distrust of research or a researcher, suspicions about the research or fear of criticism based on research findings might lead to access to participants being denied.

In our case, access at senior and front-line management levels was less problematic than at team member level. Access was gained in several services, which then, for a variety or reasons, failed to manage the research process successfully.

In one London site, the managers and the organisation were supportive, but when it came to collecting the data the team workers found the form difficult to complete and argued that other measures might be more relevant. Although this service aimed to improve inclusion, because of resource constraints the only intervention on offer to new referrals at that time was a gym group. Team workers were already using a battery of outcome measures for the purposes of collecting evidence about service user outcomes to support a case for continued funding. It is likely that team members' willingness to test an additional measure that conceptualises inclusion more broadly was compromised by the limited scope of the intervention at the time of the study and by the existing burden of data collection. Consequently, only one SCOPE was completed fully (the short version).

In another service, rationalisation and reorganisation curtailed the flow of SCOPEs, so that, after an initial flurry, returns dried up more or less completely. In this case it was possible to identify the key factor in the discontinuation of participation, as it coincided with a transfer in responsibilities away from the enthusiastic manager who had supported the project. In another London service, also aimed at improving inclusion, a rival locally based inclusion research project was adopted in preference to the SCOPE project, although the principal consultant remains in contact and does plan to use the SCOPE. Underlying a lot of these false starts there appears to lurk the feeling of 'what's in it for me?', even although the services profess to be improving inclusion and SCOPE is a way of demonstrating it. Once access is gained, sustainability is a key issue and considerable effort is required to maintain the motivation and morale of the service staff using the measure. With this in mind, we are arranging for a local clinical service to adopt

the measure and will pay particular attention to the sustainability and research burden issues. Ulrich *et al.*[165] have pointed out that the clinicians' desire to diminish 'burden' to symptom-laden patients has also been identified as a factor that contributes to recruitment barriers, particularly in sensitive areas such as palliative care and end-of-life studies.[169]

Attributes of the SCOPE measure of social inclusion

In developing the SCOPE we undertook transformations of variables that were not normally distributed. In all cases the transformed and untransformed variables produced the same findings so we reported the untransformed data for ease of interpretation. Alternatively, we could have used standard normal scores, which tend to behave better in subsequent analyses and are readily interpreted.[170]

Apart from the modifications referred to above, the study achieved its main aim of producing an instrument with good psychometric properties for use in research and clinical settings, namely the SCOPE short version. Some of the changes resulted in larger samples than would have been achieved if the protocol had not been altered, thereby strengthening the study. Although the Horn method of data reduction produced a slightly reduced 21-item version (Mini-SCOPE), which purists might wish to adopt rather than the 48-item short version, on the basis of previous research including that involving instrument development, and clinical experience, the research team felt that the Mini-SCOPE had lost its coherence and utility. It had a low alpha coefficient. The short version had greater face validity than the Mini-SCOPE, and was almost entirely acceptable to participants and the services using it, unlike the original SCOPE long version. The Mini-SCOPE is included as *Appendix 13* for those who are interested in using it, but we would recommend the SCOPE short version because of its superior performance in discriminant and internal validity.

The 15 items retained by factor analysis and MSP analyses also failed to produce a reliable scale when computed as a total score ($\alpha = 0.471$). The retention of both objective and subjective items in this index might have affected its internal consistency; the utility of this measure was further compromised by the fact that neither the objective nor subjective items constituted reliable scales when treated separately.

Because the SCOPE uses national survey questions, service users, clinicians and services generally will be able to make normative comparisons with the general population at local (e.g. electoral ward), area (e.g. local authority) and national levels, as well as comparisons with population subgroups at all levels. It will be possible for service users and clinicians to compare individual and client group levels of inclusion with mentally and physically healthy and unwell people within their locality and/or nationally and to determine what levels of inclusion might be expected when service users are in recovery. This methodology is now being used by others to obtain objective indicators.[152,153] As in our results, the objective and subjective indicators do not always correlate highly,[152] although one might expect a higher degree of association when both are measured at the individual level.

Not all national survey data can be disaggregated to a local area level (e.g. electoral ward). Nevertheless, it is at this level that the best comparators are to be found as normative comparisons with the general populations need to account for local variations in employment rates, housing markets, health-care provision, etc. Many of the indicators are ones that health and social care services could be expected to help improve for individuals receiving services, for instance:

- being in work and off benefits
- being in stable housing and arrears free
- being socially active and not isolated
- having social networks and not being lonely
- improved health
- improved family relationships
- maximising material well-being
- reducing the limitations incurred through LLTI.

For instance, Murray *et al.*[171] found that active volunteering can improve inclusion through its effects on social networks and friendships (especially with non-service users); improved access to social resources; and links to people who can help with personal or domestic tasks.

Social inclusion among population subgroups

Mental health service user group

Concerns that the nature of the MHSU sample might inhibit capacity to demonstrate discriminant validity were unfounded as the many inclusion indicators differed significantly between the recovering MHSU group and the MHC group. MHSU2 scores were similar to those for the MHSU group. The fact that the SCOPE has demonstrable discriminant validity in these samples suggests that this particular psychometric property is underestimated here, and that the SCOPE would be even more capable of differentiating between MHL, CMD and MHSU populations in evaluations or trials in which group status is determined by diagnosis or by illness severity.

The mean MHSU rating for SatOpps was significantly lower than those for the MHC group. Perceived Opps did not differ between these two groups, but this finding is plausible given that the MHSU group were in recovery, as perceptions about opportunity might be affected more than other indicators of inclusion by current depressive symptoms. The MHSU group were as likely as, or in some cases more likely than, the MHC sample to be actively participating in activities. For example, the MHSU group were considerably more likely than the others to be involved in a local group or organisation, and to have been in full- or part-time education or adult learning, but they were less likely to be volunteering. These results might be explained by selection bias, in that the group who provided the data are longstanding service users who are relatively stable and who have good social contacts with other service users. Nevertheless, significantly fewer in the MHSU group were employed than in the general population sample. Exclusion from the labour market perhaps enhanced their opportunities for inclusion in alternative groups or activities.

This raises the question as to whether or not inclusion in certain activities is preferable to others, and whether or not objective items should be weighted accordingly to reflect desirability. Some might argue that any weighting should be adjusted for individual choices and needs as in measures such as in the Comprehensive Quality of Life Scale (ComQol)[172,173] and the Schedule for the Evaluation of Quality of Life (SEIQOL).[174] Nevertheless, we and others are not persuaded of the need for individual weighting, especially in measures such as the SCOPE, whose domain and item content is determined because of their inherent importance. Serious methodological and mathematical concerns have been reported about using weighting at all,[175] and about the use of scales commonly used to rate importance to inform the weighting process.[176–178] These doubts, alongside clinical and practical doubts, provide a convincing argument that specific domains of known importance should always be measured and might lead one to conclude that 'weighted' measures have little or no advantage (beyond intuitive appeal) over 'unweighted' measures, and

that there are good reasons for not 'weighting' ratings.[175] Cummins[179] was so persuaded by these arguments that he now recommends using 'unweighted' ComQol domain satisfaction indicators.

Further work needs to be undertaken on the sensitivity to change and responsiveness in more appropriate clinical samples.

Mentally healthy community sample

The survey methodology used to provide a general population sample including the MHC and CMD population subgroups resulted in a sample that was slightly older, more often retired, and with more LLTI than for the population as a whole.

The question on LLTI, new in the 1991 Census,[180] asks 'Do you have any long-term illness, health problem or disability which limits your activities or the work you can do?' Dale[181] has noted that pre-Census test data on the LLTI correlated well with other data on general practitioner (GP) consultancies and inpatient and outpatient visits to hospital, making it a robust proxy indicator of health status and health service usage; she argues (as do others[182]) that it provides the only nationally consistent indication of health service needs.

In the 2001 Census,[144] one in six people living in a private household in the UK (10.3 million) reported having a LLTI. Rates of LLTI increased steadily with age, as one might expect, for both males and females. Rates of < 10% were observed for people aged < 30 years, but were more than double that figure for those aged 45–59 years. Rates virtually doubled again in the 60- to 74-year age group, reaching 41% for men and 38% for women. Rates of LLTI were similar (within one percentage point) for males and females in each of the age groups up to 59 years. Nevertheless, gender differences were more apparent among people aged ≥ 60 years. In the 60- to 74-year age group men had a higher prevalence of LLTI than women, but the situation was reversed for those aged ≥ 75 years, with more women than men reporting a LLTI.

Our assumption that higher rates of LLTI in our sample were associated with the higher proportion of older people in the sample was not fully supported, however. Rates of LLTI in the younger age groups were considerably higher in our sample than in the Census data, reaching 17.5% in the group aged < 30 years and 29.5% in the 45- to 59-year age group. LLTI rates for those aged between 60 and 74 years were similar but slightly lower, at 34%, than in the Census data (30%). The male–female ratio is similar in those aged < 60 years, but in our sample we found more men than women with LLTI in both the 60 to 74 years and ≥ 75 years age groups. The oversampling of people with LLTI was likely to be a result of our sampling method.

Nevertheless, the impact of this apparent sampling bias was limited, as the overall subjective inclusion rating did not differ between the LLTI and no-LLTI groups (although it approached significance), and both groups were equally satisfied with their current opportunities for inclusion. As might be expected though, the two groups did differ in respect of their perception of the availability of opportunities, with mean scores for the LLTI group being lower than those for the no-LLTI group. SWB was also lower in the LLTI group. LLTI significantly affected use of sports and leisure activities, walking around after dark, and use of full- or part-time education or adult learning. It also adversely affected internet access, employment status and income from paid employment/employment pension. As with the CMD group, the findings may be influenced by the presence of depressive symptomatology, which has not been controlled for in analysis so far.

The results for the economic activity of people with and without LLTI are similar to those reported by the Scottish Government[183] – 83% of adults of working age without LLTI were economically active compared with 30.9% of those with LLTI. The Scottish study[183] also

found, as we did, that a significantly higher proportion of those with LLTI were receiving state welfare benefits.

As one might expect, the proportion reporting physical and mental health problems was significantly higher among people with LLTI. Research undertaken by the PIs in North Wales suggests that people experiencing mental ill health often attribute limitations in terms of experiences of inclusion to their mental health problems, which can make it difficult for people to go out, to socialise and to be confident in company. Therefore, for many people with a LLTI participation and inclusion may be limited as much by self-exclusion as by being excluded by others or by lack of opportunity, but is equally real nevertheless.

One undesirable consequence of random community sampling is that minority groups are not included in large enough numbers to explore their experiences separately; therefore, further research will be needed to explore the inclusion status of minority groups.

Common mental disorder group

The chances that discriminant validity between the CMD group and the MHC group might have been compromised by our choice of threshold and the resultant possible exclusion from the CMD group (and therefore inclusion in the MHC group) of some people showing fewer symptoms of mental ill health also need to be explored. Nevertheless, this investigation needs to be considered in the context of recent research in mixed urban and rural settings, which produced findings that are broadly in line with the threshold for CMD that we chose to use in the survey data.[184] In addition, readers should recognise that repeating the analysis using the recommended threshold of the MHI-5 did not alter the results.[156]

Riva *et al.*[184] found that rates of CMD varied significantly for village populations, but not for those in semirural areas. The average rate of CMD in this study was smaller for villages (14.6%) than for urban settings in 'other cities' (18.4%), straddling our chosen threshold of 16% for our sample, which was drawn from rural, semirural and urban settings. The rate of CMD in the most recent NPMS[185] was almost identical to the 2000 rate.

Further endorsement that our selected threshold for CMD status was appropriate is provided by a study conducted in one of the south Wales areas included in the present study that also used the MHI-5 ($n = 14{,}669$).[156] A comparison of the two studies indicated that our small sample was not atypical in demographic terms or in mental health status. Kelly *et al.*[156] reported a mean baseline MHI-5 score of 71.1 compared with 75.7 (SD 3.07) in this study ($\chi^2 = 0.41$, df 1, $p = 0.52$). The mean age in their study was 56 years and ours was 53 years, and 56% of both samples were female.

The lower levels of participation in the CMD group might be explained by the fact that they were 'ill' at the time of data collection, given that this group was identified on the basis of reporting of present symptoms. Consequently, the CMD group probably are participating less than they might do when they are mentally well. In comparison, the MHSU diagnosed group are relatively speaking 'well' at the point of data collection (discharged and surviving in the community – but nevertheless the group least satisfied with their mental health). It could also be that some of the common disorders involve phobias, such as agoraphobia or social phobia, which, as with other types of anxiety and some forms of depression, are likely to result in reduced contacts and participation – sometimes due to self-exclusion.

Conceptual findings – the model

In terms of construct validity, the results are reassuring, in that the concept of social inclusion is related to but is not the same thing as participation per se or social capital.

One would expect that participation would have a reasonably strong relationship with elements of our social inclusion measure, reflecting the fact that in order to be, and to feel, included one has to participate in society in some shape or form. Clearly, the SCOPE-P13 items are more related to the objective aspects of participation included in the Berry measure than are our subjective indicators.

Social capital was associated more closely with SCOPE-O14 items and the Perceived Opps for inclusion scale than any of the other SCOPE scales, but still shared less than one-quarter of the variance, suggesting that the two concepts are related but not the same. Finally, social capital is related to but not the same thing as participation per se, and shares only 18% of its variance.

Our Phase I study enabled us to suggest a model of social inclusion, its component parts and how they related to one another. Using the original data from the application of the long version in the community sample we are now in a position to test that model and modify it in the light of our empirical findings. Initial analyses suggest that it is not necessary to ask about all of the matrix components identified in *Table 3* in order to capture the requisite aspects of social inclusion in a single measure. For example, with the exception of the leisure and participation domain, the factor analysis, MSP and Horn tests all excluded desire to change variables within domains. That is not to say that desire to change questions are unimportant, especially in clinical practice. We might, therefore, recommend that clinical services could add these questions within each domain, as we have done in a version of the MANSA (Wrexham version).

Also, the nature of the relationship between the SCOPE subjective scales and SWB items suggest that SWB does not need to be included in a measure of social inclusion. Our initial model (see *Figure 1*) recognised a reciprocal association between subjective feelings of inclusion and SWB that is mediated by participation and engagement in activities. While we would argue that SWB items should be measured at the same time as social inclusion in order to assess the impact on the final outcome of QoL of any changes in this interim outcome, the two concepts can and do stand alone. This approach is consistent with the Berger-Schmitt and Noll model,[32] which argues that improved QoL is the ultimate objective. SWB is best measured using suitable generic or health-related QoL measures, appropriate to the population being studied. Accordingly, we feel justified in removing the SWB scales from the SCOPE and advocating the use of other available SWB instruments.

There is an argument for describing SCOPE as having a modular structure, of which the overall inclusion item and the perceived and SatOpps scales form the core. Individual O14 and P13 items, which should not be treated as scale, would form one additional module, essential to care planning and research that requires the context of participation and engagement, and SWB scales would form another; the changes to opportunity scale that proved useful in the MHSU sample could be added to research or routine data collection in clinical samples or settings.

Regression models (not reported) of overall inclusion, SatOpps and Perceived Opps confirmed that they are associated most closely with each other and SWB indicators. Social capital is significantly associated with SatOpps when other explanatory factors are controlled for, but objective access and participation indicators are not.

Objective access items were associated more strongly with Perceived Opps, which was also significantly associated with social capital and SWB. The overall inclusion indicator was not associated with social capital or the Berry measure of participation, but there was a 'not significant' trend towards a positive relationship with our P13 measure. Overall inclusion was associated with SatOpps, Perceived Opps and SWB.

In all these models, the associations were confounded slightly by a high correlation between perceived and SatOpps, but the results were similar when Perceived Opps were excluded.

Chapter 5

Conclusion

Social inclusion was introduced into the policy discourse by New Labour, who established the now disbanded Social Exclusion Unit, and focused attention specifically on Social Exclusion and Mental Health.[186] Social inclusion (or exclusion) does not feature as strongly in the present Coalition Government's vision of a 'Big Society'. Nevertheless, the concept remains implicit within that discourse and the core principles of inclusion have become more widely accepted since the commissioning of this study. This is evident in the Care Services Minister's hints about what the forthcoming English mental health policy strategy may look like. Paul Burstow (Minister of State for Care Services) has highlighted the connections between poverty and mental illness, saying that they cannot be addressed in isolation.[187] Similarly, at a domain level, the relationship between mental ill health and homelessness cannot be considered independently of each other. An integrated approach that takes account of the social and mental health needs of individuals may be indicated, which the SCOPE measure of social inclusion is well placed to measure. This is consistent with the increasing emphasis in health services and health services research to incorporate measures of well-being. One indication of the demand for such a measure is the number of expressions of interest we have had from health and social care academics in America, Australia, Hong Kong, Taiwan and the UK.

Suggestions for further research

The Social and Community Opportunities Profile is a reliable and valid measure of social inclusion that can be used to compare mentally unwell and general population groups. Nevertheless, several research questions remain. In priority order these are:

1. The most important question that is being pursued by the research team is to what extent the SCOPE measure is responsive to changes in social inclusion over time, including those brought about by social and clinical interventions in mental health care. While our plan was to examine change over time with paired *t*-tests and regression analysis, it might be more appropriate (depending on the number of responses) to adopt alternative approaches to testing responsiveness and stability. For instance, an approach adopted by some methodologists is to enquire at retests whether SCOPE has improved (+1), remained the same (0) or deteriorated (–1) since baseline, and analyse all zero scores for test–retest reliability and all non-zero scores for responsiveness.
2. Increasingly users of health and mental health services expect to return to 'normality' either as assessed by themselves or by societal norms. The use of SCOPE as a research tool in RCTs and other comparison studies of different social interventions aimed at assessing the effectiveness and cost-effectiveness of that intervention is one way forward. One important research question might focus on whether or not the recovery model[188] of mental health care produces favourable inclusion outcomes compared with other models of care.
3. Further testing is also required in relation to other patient groups, including more rigorous testing among people with LLTI; larger samples of minority and disadvantaged groups are also required, including those with physical illnesses and disabilities, and specific mental health diagnoses.
4. It will be necessary to explore cultural ideas about the concept of inclusion and the scope and mechanisms for transference of ideas about the measurement of social inclusion, in order

to establish how far this measure can travel. For example, we are aware from developing interests in Taiwan that there is no word in their Chinese dialect that captures the concept of social inclusion, so in some cultures considerable qualitative work would be required before any development of a culturally sensitive measure could begin.

The SCOPE has potential for use as an operational outcome measure with which to assess routine service outcomes. This is of importance to the UK's Coalition Government (featuring in the 2010 NHS White Paper[189]) 'as it was to the previous government'. More specifically, it is likely that the SCOPE can be a useful tool in terms of measuring the effectiveness of health, social care and policy initiatives relating to personalisation, including self-directed support and personal budgets.

On a wider scale there is potential for a social inclusion module to be incorporated into one or more of the UK national surveys, particularly longitudinal and cohort studies, in order to assess the extent to which inclusion changes over time, both among the population as a whole and, more importantly, among disadvantaged groups within society.

In the interests of conceptual progress, we would suggest a study or studies that would involve applying standard measures of the several related concepts referred to in the background section of this report to a large population sample, across several localities (and countries), in order to examine whether latent analysis supports the discreteness of the various constructs. This would also involve multilevel modelling to encompass the issues of individual- and area-level measurement, as well as structural equation modelling to estimate causality between different components of inclusion and related constructs. This would produce a similar output to the subjective measures paper produced by the PI and colleagues, published in the *Journal of Nervous and Mental Diseases*.[159]

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Contribution of authors

Professor Peter Huxley, PI and lead investigator, was involved in the conception, design, execution and writing up of the interim and final reports.

Dr Sherrill Evans, co-applicant and co-investigator, was involved in the conception, design, execution and writing up of the interim and final reports. She was also responsible for overseeing the production of the instrument, supervising research staff and advising on statistical analysis, with the support of experts cited in the acknowledgements.

Ms Sally Madge was the senior research assistant who worked closely with ORS and participating agencies on data collection, and undertook data entry and analysis in SPSS. She has contributed to the interpretation of data and to the writing of interim and final reports.

Dr Martin Webber was a co-applicant and contributor to the bids in the Phase I and II projects, as well as providing background materials for the literature reviews, commenting on early versions of the instrument and reading, editing and signing off the final report. He also contributed the material on item response theory, including data analysis and writing up, as well as providing advice and materials on the use of the Resource Generator tool.

Dr Tania Burchardt was also co-applicant and contributor to the bids in the Phase I and II projects, as well as providing background materials for the literature reviews, commenting on early versions of the instrument and reading, editing and signing off the final report.

Dr David McDaid was also co-applicant and contributor to the bids in the Phase I and II projects, as well as providing background materials for the literature reviews, commenting on early versions of the instrument and reading, editing and signing off the final report.

Professor Martin Knapp was also co-applicant and contributor to the bids in the Phase I and II projects, as well as providing background materials for the literature reviews, commenting on early versions of the instrument and reading, editing and signing off the final report.

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Appendix 1

The literature search

Terms/engine	Ovid, MEDLINE, Old MEDLINE, EMBASE, PsycInfo, HMIC, IBSS	WOK, SSCI, SCI	CSA, ASSIA, Sociological Abstracts, Social Services Abstracts, ERIC
1	ALL DONE	Article, English	1948–2006
Social$inclu$Social$exclu$OR social capital OR social$cohesi$OR social$engage$OR social$involve$OR social participation OR social interaction$OR social$integrat$OR social responsibilit$OR social wellbeing OR social well-being.mp	75,585	1945–2006 95,778	Social(ly) inclusion/ed/ive 1042 Social(ly) exclusion/ed 1048 Social Capital 2431 Social(ly) cohesion/ive 2482 Social(ly) engage/d/ment 188 Social(ly) involve/d/ment 204 Social participation 1232 Social interaction/s 6360 Social integration/ed 4573 Social responsibility/ies 2340 Social wellbeing/well-being 451
2 Limit 1 to abstracts	54,582		
3 Limit 2 to English language	50,644		
4 Limit 3 to human/humans	43,769		
5 Limit 4 to peer-review journals	37,552		Social(ly) inclusion/ed/ive 791 Social(ly) exclusion/ed 612 Social capital 2049 Social(ly) cohesion/ive 1518 Social(ly) engage/d/ment 153 Social(ly) involve/d/ment 141 Social participation 943 Social interaction/s 4692 Social integration/ed 3051 Social responsibility/ies 1384 Social wellbeing/well-being 363
6 Limit 5 to 1948–2007	37,476	95,778	
7 Limit 6 to tests and measures	24,368		

Terms/engine	Ovid, MEDLINE, Old MEDLINE, EMBASE, PsycInfo, HMIC, IBSS	WOK, SSCI, SCI	CSA, ASSIA, Sociological Abstracts, Social Services Abstracts, ERIC
8			
Limit 7 to age 18–64 years	18,858		
9			
measure$OR index OR indices OR indicator$OR scale$OR tool$OR assessment$OR instrument$OR questionnaire$OR form$OR profile$OR test$OR schedule$).m_titl.	1,734,823		
10			
Combine 6 and 9	2603		
11			
Remove duplicates	2032		
12			
Combine 7 and 9	2048		
13			
Remove duplicates	1607		
14			
Combine 8 and 9	1620		
15			
Remove duplicates	1314		
16			
measure OR measures OR measurement OR index OR indices OR indicator OR indicators OR scale OR scales OR tool OR tools OR assessment OR assessments OR instrument OR instruments OR questionnaire OR questionnaires OR form OR forms OR profile OR profiles OR test OR tests OR schedule OR schedules.m_titl.	1,179,160	Article, English, 1945–2006 >100,000	749,086 396,151 peer reviewed, English
17			
Combine 6 and 16	2240	5355	Social(ly) inclusion/ive/ed 442 (including duplicates) 361 peer reviewed journals Social(ly) exclusion/ed 446/351 (PR) Social Capital 1345/1128 (PR) Social(ly) cohesion/ive 663/541 Social(ly) engage/d/ment 102/79 Social(ly) invole/d/ment 116/77 Social participation 605/456 Social interaction/s 3,383/2,298 Social integration/ed 2,704/1,660 Social responsibility/ies 1,441/701 Social wellbeing/well-being 267/225

Terms/engine	Ovid, MEDLINE, Old MEDLINE, EMBASE, PsycInfo, HMIC, IBSS	WOK, SSCI, SCI	CSA, ASSIA, Sociological Abstracts, Social Services Abstracts, ERIC
18			
Remove duplicates	1716		
19			
Combine 7 and 16	1811		
20			
Remove duplicates	1395		
21			
Combine 8 and 16	1431		
22			
Remove duplicates	1138		
23			
From 20 keep	243	Search for specific terms within search 179 (including duplicates)	Social inclusion etc 107 Social Exclusion etc 123 Social Capital 172 Social(ly) cohesion/ive 66 Social(ly) engage/d/ment 13 Social(ly) invole/d/ment 6 Social participation 53 Social interaction/s 87 Social integration/ed 73 Social responsibility/ies 22 Social wellbeing/well-being 81
24			
Retained:			
soc inclusion measurement, measaurement of some element of social inclusion or potential conceptual relevance	99 (no duplicates within; duplicates with CSA and WOK)	87 (duplicates within and across databases)	89 (duplicates within and across databases)
	144 articles were retrieved and read, 76 of which were discarded as definitely not containing any measures, data, or psychometric reports or conceptually irrelevant, and 68 that apparently contained conceptually relevant material, or measures of inclusion or component parts		

ASSIA, Applied Social Sciences Index and Abstracts; ERIC, Education Resources Information Center; HMIC, Health Management Information Consortium; IBSS, International Bibliography of the Social Sciences; SCI, Science Citation Index; SSCI, Social Sciences Citation Index; WoK, Web of Knowledge.

Searches of EconLit and Eco Host generated a further 706 references, of which 13 duplicates were eliminated and 57 articles were selected. These all duplicated papers retrieved via other sources.

Web searches

We conducted two web searches, one using the terms 'measure of social inclusion' and the other 'social inclusion index', on each of these search engines: LookSmart; National Quality Measures Clearinghouse; Dogpile; Google Advanced; Question Bank; and Copernic Agent Basic. There

were 1955 hits. Many of the indexes referred to on websites are social indicator related, and far fewer relate to perceived inclusion measures, and of course none of the indicators identified is subject to any form of quality control. When we put these results together with the formal review of measures and the information from the National Institute of Mental Health England (NIMHE) coalition, they added nothing of importance.

Review of measures

Having reviewed the 68 papers for measures of the constituent elements of social inclusion, we obtained, from published, web and personal contacts, all of the relevant instruments. The next section presents a brief review of the 10 measures that were identified in this initial search. (The updated search identified a number of others published between 2006 and 2010 – these are shown in the table at the end of this appendix and are covered briefly in the main text.)

In the following section we are concerned with (1) assessing the coverage of the concept; (2) the prior use of the measure; and (3) whether or not the measure's psychometric properties have been published. The number of measures reporting satisfactory psychometric properties is very limited indeed.

National Development Team (for inclusion) review of measure of social inclusion

Bates[190] also makes the distinction between the individual sense of inclusion and the government's definition of it. He developed a series of key indicators (partly based on work by the Inclusion Research Network with subsequent additions) and these are:

- *access to specific services* empowerment, participation, employed within
- *standard of living* income, housing, employment, education, health care
- *relationships* social networks, social capital, respect and positive attitudes of others.

The questions in these areas are also mostly copied from established surveys, as in the SCOPE measure. Only 11 questions are used, compared with 12 pages in SCOPE. As Bates points out (as did several of the concept mapping groups), the answers to these questions do not give a sense of their personal meaning to the respondent, and ignore the fact that any individual may choose not to interact with family members, for example. He also reminds us that ethnicity and gender are powerful determinants of the experience of exclusion and inclusion, and from the concept mapping results in the present study we should add age to that list. He provides a useful summary of existing instruments and the domains that they cover under the headings demographics, social roles and relationships/psychological. Each of the measures has been assessed using a standard review form, but it is not clear how the list of measures was drawn up in the first place.

Conclusion Bates has undertaken extensive and valuable work on the extent to which services meet inclusion criteria but this is beyond the scope of the present study. Nevertheless, it does mean that there is a tool available for making assessments of service provision against these criteria.

Mind South West (Williamson and Allen 2006)[191]

From Mind South West; registered charity; www.mind.org.uk comes an assessment based on 'the human givens'. These are safe and secure; give and receive attention; independence and control; emotionally connected to others; part of a wider community; friendship and intimacy; sense of status within social groups; sense of competence and achievement; meaning and purpose;

physical health; spirituality; creativity; and finance. It is a measure for use in mental health services and defines mental health as 'the capacity to think, feel and act in ways that lead to fulfilling relationships and a sense of well being', making it an exclusively subjective measure. Under each heading the respondent completes boxes with statements in respect of (e.g. safety) things that make me feel safe; all you feel you have on a good day; what happens on a bad day; and how you would like to find ways of meeting this need. The respondent then gives a score out of 10 to represent how well he or she thinks they meet this need.

Conclusion The tool will have all the strengths and weaknesses of a goal attainment schedule, i.e. while it is highly personalised, it makes direct and meaningful comparison between individuals or group aggregation (except for the score out of 10) more or less impossible.

Developing valued lifestyles support needs pack (Davis and Lindley 1999)[192]

This measurement tool is also designed for use in mental health services to determine the type and level of support any individual might require. The domains are living in the neighbourhood; getting involved in the community; making own decisions; being respected; building on strengths; money matters; health and fitness; peace of mind; educational aspirations; and work inclusion. Under each heading are about 20 statements (e.g. find places with local social life) rated on a seven-point scale from 'no help' to 'a great deal of help', and a free form section to put three major choices of help topic. This is to help staff help the person meet these goals, and so is not unlike the Mind South West measure in this respect. All of the domains emerged in the present concept mapping exercise.

Conclusion It is not clear how Davis and Lindley arrived at the domains or the statements. However obtained, the concept mapping exercise provide some post hoc validation for the choice of domain, or vice versa! It is primarily of potential value in service settings to monitor progress regarding inclusion and normalisation perhaps.

Anglia Ruskin/University of Central Lancashire (Hacking et al*. 2008)*[193]

This instrument was based on a review, beginning with the Social Exclusion Unit report, adding published and unpublished literature, including service user contributions from websites of the major mental health charities. Instruments were also sought from arts and mental health projects in England, and questions sought from labour force and household surveys. Concepts arising in these materials were mapped against previously used questions by one member of the team followed by team discussion to include, exclude or adapt the questions. Where no questions addressing concepts were found, new ones were created through discussion with the whole team, which includes two former service users. The resulting 22 questions were grouped into the following categories: building social capital (six items); social acceptance (five items); neighbourhood cohesion (two items); stability of housing tenure (two items); engagement in leisure and cultural activities (three items); and citizenship (four items). Initially, they were Likert rated but, following piloting with 15 participants from arts and mental health projects, this was changed to a four-point scale ('not at all' to 'yes', 'definitely'). Ninety participants from 22 schemes completed the scale (88 answered over 90% of the questions and the other two fewer than one-third and so were removed). Data reduction techniques resulted in a 19-item measure, covering social isolation, social relations and social acceptance. Activity items, such as participating in a sport or helping a charity, had low alpha coefficients and so were removed. The remaining items are all largely subjective (e.g. I feel terribly alone and isolated; I have felt unsafe to walk in the neighbourhood; I have felt accepted by neighbours).

Conclusion As the authors indicate, it is not known whether the whole construct can be represented by these dimensions and, as the results of the concept mapping in the present

study suggest, these dimensions are confined to individual and subjective, almost exclusively participatory or emotional, aspects of inclusion. It may therefore be very suitable for use in a limited range of settings, but may be less comprehensive and useful in large-scale studies requiring sophisticated analysis of multiple indicators.

Perceived community cohesion (Lev-Wiesel 2003)[194]

A number of researchers who represent the subjective approach to cohesion have proposed theoretical definitions and, despite the use of some different elements, share a common core meaning. Gross and Martin[195] suggest that 'perceived cohesion' is the 'sticking togetherness' of the group, which later Hetcher[196] and Bhattacharyya[197] refer to as 'solidarity' (a deeply shared identity and shared values). Bollen and Hoyle[198] define perceived cohesion as an individual's sense of belonging to a particular group and his/her feelings of morale associated with membership of the group. A sense of belonging comprises cognitive and affective elements. Others replace the term 'perceived cohesion' by the term 'psychological sense of community' (Unger and Wandersman,[199] Gruber and Shelton,[200] Buckner[201]). McMillan and Chavis[43] propose four elements of a psychological sense of community: membership (a feeling of belonging); influence (the power of member and community to affect each other); sharing values (fulfilment of an individual's values by a community); and a shared emotional connection (based on a common history). Findings are reported for a sample of 215 residents (77 men and 138 women) of three different communities according to their social–economic structure: kibbutz ($n = 39$), village ($n = 76$) and urban centre ($n = 100$).

The questionnaire consisted of six parts (67 items) according to the elements constituting 'perceived community cohesion'. A sense of belonging was addressed by 19 items (e.g. community members can count on me, I feel a part of the community). Social ties measures of the quality and quantity of social interaction were addressed by five items (e.g. I would like to have more friends in my community, I would like to meet community members more often). Perceived social support to measure individual belief in potential social support had 13 items (e.g. I feel responsible for my neighbours, I share my feelings and thoughts with my neighbours). Solidarity measures the feeling of togetherness and had 11 items (e.g. a member in trouble should turn to help to the leaders in our community, I contribute some of my time to help achieve community goals). Nine items related to rootedness measured a sense of place (e.g. I can't see myself living in another place, I would like my children to live here when they grow up). Finally, 10 items measured feelings of alienation in a given community (e.g. the relationships among members of this community get worse, you cannot trust anyone in this community). Participants were asked to complete four-point scales to describe their own feelings, with response options ranging from 'total agreement' (4) to 'total disagreement' (1). Reliability was 0.87 (Cronbach's alpha). To examine the extent to which the element measures (sense of belonging, social ties, social support, rootedness, solidarity and alienation) serve as potential indicators of 'perceived community cohesion' elements, a confirmatory factor analysis was performed. The minimal loading factor that had been set by the authors was 0.40; therefore, 15 items were dropped out of the questionnaire. The final questionnaire consists of 16 items that examined a sense of belonging, seven items that examined alienation, nine items that examined solidarity, seven items that examined social support, eight items that examined rootedness, and five items that examined social ties.

Conclusion The weakness of this research seems to derive from the fact that the elements were highly intercorrelated. This may be an indication that in reality they cannot be differentiated entirely and so it is not certain exactly what is being measured and no comparative measures were used.

De Jong Gierveld and van Tilburg (2006)[202]

Loneliness is an indicator of social well-being and pertains to the feeling of missing an intimate relationship (emotional loneliness) or missing a wider social network (social loneliness). The 11-item De Jong Gierveld Loneliness Scale has proved to be a valid and reliable measurement instrument for overall, emotional and social loneliness, although its length has sometimes rendered it difficult to use in large surveys. In this study, the authors empirically tested a shortened version of the scale on data from two surveys ($N = 9448$). Confirmatory factor analyses confirmed the specification of two latent factors. Congruent validity and the relationship with determinants (partner status, health) proved to be optimal. The six-item De Jong Gierveld Loneliness Scale is a reliable and valid measurement instrument, overall, for emotional and social loneliness, and is suitable for large surveys. The alpha coefficients for the six-item loneliness scale varied between 0.70 and 0.76 for the total adult population, indicating a quite reliable scale. As expected, the reliability coefficients for the three-item emotional loneliness scale were lower, varying between 0.67 and 0.74.

It is unknown whether the functioning of the shortened six-item loneliness scale, without the other five items, differs from the functioning of the six-item scale when it forms part of the 11-item loneliness scale. This study has also shown that the six-item loneliness scale and the three-item emotional and social subscales of loneliness are good measuring instruments for the broad age range of adults (18–99 years), as well as for the three age subgroups investigated: those aged < 45 years, those aged 45–64 years and those aged ≥ 65 years.

Conclusion Some of the scales have moderate alphas, and the measure does not appear to have been widely used. It is doubtful whether or not it can form a constituent part of a social inclusion measure, as it reflects the absence of relationship and wider networks. It is not clear whether or not the obverse of the loneliness score actually constitutes an inclusion index. Also, the items seem to be mood related and the authors do not seem to have explored the relationship with depressed mood, which might explain some of the variance of the measure. These objections seem sufficiently substantial not to warrant examination of the other major US loneliness measure (Russell DW, Peplau LA, Cutrona CE. The revised UCLA Loneliness Scale: concurrent and discriminant validity evidence. *J Pers Soc Psychol* 1980;**39**:472–80).

The participation scale (Van Brakel et al. 2006)[68]

The participation scale is a measure of participation, developed in Nepal, India and Brazil, using standard methods. The instrument was based on the participation domains of the International Classification of Functioning, Disability and Health (ICF), and assesses client-perceived participation. The participation domains of the ICF are learning and applying knowledge; general tasks and demands; communication; mobility; self-care; domestic life; interpersonal interactions and relationships; major life areas and community; and social and civic life.

Respondents rated their participation in comparison with a 'peer', defined as 'someone similar to the respondent in all respects except for the disease or disability'. An 18-item instrument was developed in seven languages. Cronbach's alpha coefficient was 0.92, intra-tester stability 0.83 and inter-tester reliability 0.80. Discrimination between controls and clients was good at a participation score threshold of 12. Responsiveness after a 'life change' was according to expectation. Each centre was to aim to enrol 90 subjects: 30 were reinterviewed to test inter-interviewer reliability and another 30 to test interviewer stability over a period of 1 month. The remaining 30 were interviewed by the expert and also had a participation scale interview. Fifteen of these were to be reassessed after 9–12 months to evaluate the dynamicity of the scale. Of these, 10 were to be subjects expected to experience a major life change in this period (e.g. clients who

were to receive major rehabilitation assistance) and five were to be control subjects. In addition, each centre interviewed 10 control subjects without leprosy, disability or other significant health condition.

As no other validated participation assessment tool existed, the results were validated against the opinion of an expert – someone considered able to assess the severity of participation restrictions based on an interview. The experts rated the severity of participation restrictions on a 1–5 scale (1 = none, 5 = complete restriction).

Results

- Number of scale items: 18.
- Response scale weighting: 0 = no restriction; 1 = some restriction, but no problem; 2 = small problem; 3 = medium problem; and 5 = large problem.
- Internal consistency.
- Item to total correlation: range of *R*, 0.32–0.73.
- Cronbach's $\alpha = 0.92$.
- Factor analysis: first factor = 90% of variability ($n = 497$).
- External validity.
- Expert score: $R = 0.44$ ($n = 227$, $p = 0.005$, Spearman).
- Eye–hand–foot score: $R = 0.39$ ($n = 724$, $p = 0.001$, Spearman).
- Self-assessment: ($n = 496$, $p = 0.001$, Kruskal–Wallis test).
- Inter-interviewer reliability: 0.80 ($n = 296$).
- Intra-interviewer reliability (stability): 0.83 ($n = 210$).
- Discrimination [median score (range)] matched pairs ($n = 171$).
- Clients: 13 (0–72; 95th percentile 50).
- Control subjects: 2 (0–44; 95th percentile 12).

The psychometric properties of the participation scale have been extensively field tested in six major languages in Nepal, India and Brazil according to a rigorous scientific protocol. The participation score was shown to be responsive to changes in participation following important events in people's lives. The scale can be administered, on average, in < 20 minutes. Beta-testing of the utility of the scale under routine work conditions was performed in 14 institutions and departments not involved in the development work. The feedback was very encouraging and indicated that the scale could fulfil a useful role in the rehabilitation of people with a variety of health conditions.

Conclusion The participation scale may be used as an evaluation and research tool to study participation (restrictions) and the effects of programmes to promote social inclusion. It might therefore form a component part of a social inclusion measure, or it might be used to validate the participation component of a new index. Its use may be limited because of the way in which the ratings are made not against an objective standard but against the individual's perceived peers. It is also problem oriented so is negatively (how much of a problem is this) rather than positively construed. However, its psychometric properties seem to be good. It does not appear to have been tested outside the countries that developed it.

Lelieveldt (2004)[203]

The data on the relationship between social capital and neighborhood-orientated forms of participation are derived from two surveys that were conducted in the spring of 2002 and 2003, in three OBAZ [Onze Buurt aan Zet (Our Neighbourhood's Turn)] neighbourhoods (De Laares, Velve-Lindenhof and Bothoven) that were offered 3.5M guilders to improve the neighbourhoods,

and three other neighbourhoods (Pathmos, Twekkelerveld and Deppenbroek) that were not. In 2002, 246 community respondents were drawn at random, which led to 144 completed interviews (response rate 58.5%), whereas in 2003, 336 addresses were drawn, which resulted in 163 completed interviews (response rate 48.5%). The empirical analysis was based on the combined total of 307 respondents. A neighbourliness scale was constructed on the basis of six items (including borrowed tools, talked about personal problems, helped each other, and quarrelled) and had a Cronbach's alpha coefficient of 0.79. In the survey, attitudinal social capital was measured using a battery of seven items with statements about respondents' own attitude towards the neighbourhood as well their perceptions of the attitudes of fellow residents. Neighbourhood residents were asked how often they kept an eye on children playing outside, kept an eye on neighbours' homes, complained to people displaying annoying behaviour or put up a note with such complaints, removed dirt from the streets and, finally, how often they maintained public gardens or their own street-side garden. The six items yield a scale with a minimum of 0 (*never*) and a maximum of 3 (*often*) ($\alpha = 0.64$). A second indicator of participation is based on an inventory of six categories of problems that respondents may have experienced and a simple 'yes or no' follow-up question that asked whether or not the respondent has tried to do something about the problem. The broad formulation of the follow-up question – 'doing something in response to a problem' – captures all kinds of participation, from directly approaching the person who caused a problem to more indirect forms such as contacting the police or civil servants. The third form of participation consists of voting at the latest municipal elections and has been included as a proxy for all kinds of institutionalised forms of political participation.

The structural dimension of social capital as measured by neighbourliness has the biggest and most consistent impact on participation (although the way these are measured suggests that they are probably confounded), followed by sense of duty and finally by trust, which turns out to be non-significant for informal governance and negatively related to the conversion of problems into action.

Conclusion The internal consistency of some scales is poor, and the results may have been achieved because different measures may have been confounded. The study presents some interesting ideas about participation activity, but uses only voting for civic engagement. Probably too limited to be useful.

The Impact on Participation and Autonomy Questionnaire (Sibley et al. *2006)*[204]

As the title of this measure implies, it is concerned with the assessment of the impact of disability, illness and handicap on autonomy and participation. It is doubtful, therefore, how relevant the measure would be in a general population context. The authors, in Nottingham and Southampton, aimed to evaluate the validity and reliability of an English version of the Impact on Participation and Autonomy Questionnaire (IPA). The original Dutch IPA has been shown to load on to five factors. Subjects were 213 people with multiple sclerosis, rheumatoid arthritis, or spinal cord injury and general practice attendees, stratified by level of disability (median age 54 years: 42% male, 58% female). Self- and interviewer-administered outcome measures. Other measures: SF-36, London Handicap Scale, three domains of the Functional Limitations Profile (FLP) (household management, social integration, emotion).

Respondents are asked to 'rate their chances of …', for instance 'getting around in my house when I want'; 'visiting relatives and friends when I want'; 'going on the sort of trips and holidays I want to'; 'getting washed and dressed the way I wish' as very good, good, fair, poor and very poor.

The scale has good psychometric properties. Confirmatory factor analysis confirmed the construct validity of the IPA (Normal Fit Index > 0.98, Comparative Fit Index > 0.99), indicating

a good fit to the model. Convergent and discriminant validity were confirmed by the predicted associations, or lack of, with the exception of a poor association between the 'social life/relationships' IPA subscale and FLP–Emotion. Internal reliability of the IPA was confirmed (Cronbach's $\alpha > 0.8$; item-total correlations for all subscales > 0.5). Test–retest reliability was confirmed for all items (weighted kappas > 0.6) and subscales (intraclass correlation coefficients > 0.90). The authors suggest that further research is required to examine the responsiveness of the IPA to change over time, its clinical utility and suitability for use with people from ethnic minorities and with older people.

Conclusion The five factors are (a) autonomy indoors; (b) family role; (c) autonomy outdoors; (d) social life and relationships; and (e) work and education. However, the questions are much more focused on the former than the latter (15 items in 'a' and 'b'): money and leisure only one each; relationships (7); work and education (6). Cronbach's alpha coefficients are highest for indoor and outdoor autonomy. This suggests that this measure is more useful where the focus on handicaps and limitations to autonomy and participation – but, even so, participation is not actually assessed in much detail.

Updated review – June 2010

Using the same search strategy as the original Phase I search, but this time confined to 2006–7 to 2010.

Unduplicated papers identified	156
Not relevant (no measurements, mentioned only in discussion, non-empirical discursive papers)	122
Relevant – social inclusion	8
Relevant – other	15
New measures of social inclusion (see main text):	2
Lloyd *et al.* 2008[118]	
Hacking *et al.* 2008[193]	
New measures – other (see main text):	6
De Silva *et al.* 2006[112]	
Webber and Huxley 2007[114]	
Kritsotakis *et al.* 2008[116]	
Sheik *et al.* 2009[117]	
Chen *et al.* 2009[115]	
Looman and Farrag 2009[113]	

Appendix 2

Question sources

Question		Source questionnaire	Date	Notes
1.	Are there any community groups, clubs or organisations in your area?	Original question		
2.	Do you personally have access to a group, club or organisation in your area?	Original question		
3.	Are you personally involved in a group, club or organisation in your area?	Original question		
4.	Are you involved in or a member of any of the following?	Health Survey for England[139]	2006	
5.	What do you think about the general availability of these groups and activities in your area?	N/A	N/A	Perceived Opps item
6.	How do you feel about the range of opportunities to be involved with community groups, clubs of organisations that are available in your area?	N/A	N/A	SatOpps item
7.	In what ways (if any) would you like to change your opportunities to be involved with community groups, clubs or organisations that are available in your area?	N/A	N/A	Changes to opportunities
8.	Did you vote in the May 2005 General Election?	British Household Panel Survey[140]	2006	
9.	In the last 12 months, have you done any of the following things, UNPAID, for someone who is *not* a relative? This might be for a friend, neighbour or someone else	Citizenship Survey, also known as 'People, Families and Communities'[142]	2007	
10.	What do you think about the opportunities available in your area to undertake these kind of activities?	N/A	N/A	Perceived Opps item
11.	How do you feel about range of opportunities for voluntary participation?	N/A	N/A	SatOpps item
12.	In what ways (if any) would you like to change your opportunities for voluntary participation?	N/A	N/A	Changes to opportunities
13.	Have you ever used the internet at home/anywhere else?	Original question		
14.	Have you used the internet in the last 3 months, 6 months or year?	Offending Crime and Justice Survey[143]	2004	
15.	Do you or any member of your household have access to the internet from home?	National Survey Culture, Leisure and Sport[141]	2005/ 2006	
16.	Are there any leisure, sports or entertainment facilities in your area?	Original question		
17.	Do you have access to any leisure, sports or entertainment facilities in your area?	Original question		
18.	Do you currently use any leisure, sports or entertainment facilities in your area?	Original question		
19.	How often do you do the following activities? (once a week or month)	British Household Panel Survey[140]	2006	
20.	What do you think about the general availability of opportunities in your area to undertake these kinds of activities?	N/A	N/A	Perceived Opps item
21.	How do you feel about the range of leisure opportunities that are available to you?	N/A	N/A	SatOpps item

Question	Source questionnaire	Date	Notes
22. In what ways (if any) would you like to change your leisure opportunities?	N/A	N/A	Changes to opportunities
23. Overall, how do you feel about your own leisure activities?	N/A	N/A	MANSA SWB Item
24. Overall, how do you feel about the opportunities that you have to participate in leisure activities?	N/A	N/A	SatOpps item
25. Is there housing suitable for you and your household at a price that you can afford in an area that you want to live?	Original question		
26. What type of accommodation does your household occupy?	UK Census[144]	2001	
27. Which of these housing tenure descriptions applies to you as an individual?	Original question		
28. Which of these housing tenure descriptions applies to the household?	British Household Panel Survey[140]	2006	
29. Is your household's accommodation self-contained?	UK Census[144]	2001	
30. How do you feel about your accommodation?	N/A	N/A	MANSA SWB item
31. Roughly how many years have you lived in this area?	Citizenship Survey, also known as 'People, Families and Communities'[142]	2007	
32. Thinking about the local area in which you live, how strong is your preference to continue living in this area?	Original question		
33. What do you think about your opportunities to access suitable housing?	N/A	N/A	Perceived Opps item
34. How do you feel about the range of opportunities for accommodation that are available?	N/A	N/A	SatOpps item
35. In what ways (if any) would you like to change your housing circumstances?	N/A	N/A	Changes to opportunities
36. How many cars or vans are owned or available to use by one or more members of your household?	UK Census[144]	2001	
37. Do you ever walk alone in this area after dark?	Citizenship Survey, also known as 'People, Families and Communities'[142]	2007	
38. What is the main reason for this? (not walking around after dark)	British Crime Survey[145]	2006	
39. How safe do you feel walking alone in this area after dark?	Citizenship Survey, also known as 'People, Families and Communities'[142]	2007	
40. Generally, how safe or unsafe do you feel living in your area?	Original question		
41. How do you feel about the general safety of your area?	N/A	N/A	SWB item
42. During the past year have you been a victim of a crime or assault?	British Crime Survey[145]	2006	Modified question. British Crime Survey asks questions on being a victim of crime and frequency of specific experiences. For comparison used overall number of people reporting being victim of crime
43. If you were a victim of assault, was the person who assaulted you known to you or a stranger?			
44. How do you feel about your personal safety?	N/A	N/A	MANSA SWB item
45. Which of these is currently the most applicable to you? (employment status)	British Household Panel Survey[140]	2007	
46. How do you feel about your current job?	N/A	N/A	MANSA SWB item
47. Thinking about your main job, how many hours, excluding overtime and meal breaks, are you expected to work in a normal week?	British Household Panel Survey[140]	2006	

Question	Source questionnaire	Date	Notes
48. Thinking about the seven days ending on Sunday how many hours did you actually work in your main job/business?			
49. How do you feel about not working?	N/A	N/A	MANSA SWB item
50. What do you think about your opportunities to find work in this local area?	N/A	N/A	Perceived Opps item
51. How do you feel about the range of opportunities for work that are available to you?	N/A	N/A	SatOpps item
52. In what ways (if any) would you like to change your opportunities for finding suitable work?	N/A	N/A	Changes to opportunities
53. Can you please tell me which kinds of income you receive?	Health Survey for England[139]	2006	
54. What is your personal annual income (before tax if applicable)?			
55. In the last 12 months have you found yourself more than 2 months behind with rent/mortgage?	British Household Panel Survey[140]	2006	
56. How well would you say you are managing financially these days?	British Household Panel Survey[140]	2007	
57. How easy or difficult is it for you to meet the costs of running this home?			
58. If you need someone to lend you a small amount of money do you know anyone who would?	N/A	N/A	RG-UK
59. If you need someone to lend you a large amount of money do you know anyone who would?	N/A	N/A	RG-UK
60. What do you think about your opportunities to increase your personal income?	N/A	N/A	Perceived Opps item
61. How do you feel about the range of opportunities to secure additional income that are available to you?	N/A	N/A	SatOpps item
62. How do you feel about your personal financial situation?	N/A	N/A	MANSA SWB item
63. How do you feel about your household financial situation?	N/A	N/A	SWB item
64. Do you have any qualifications from …?	Labour Force Survey[146]	2006	
65. What is the highest educational qualification that you have obtained?	General Household Survey[147]	2006	
66. In the last 12 months were you enrolled on any full- or part-time education course?	Family and Children Survey[164]	2006	
67. If 'yes', which qualifications were you studying for?	Family and Children Survey[164]	2005	
68. In the past year have you been involved at all in adult learning?			
69. In the past year have you been involved in job-related learning?	Labour Force Survey[146]	2006	
70. How likely is it that you will do any job-related learning in the next month?			
71. How likely is it that you will do any job-related learning in the next year?			
72. What do you think about your opportunities to increase your personal income?	N/A	N/A	Perceived Opps item
73. How do you feel about the range of educational opportunities that are available to you?	N/A	N/A	SatOpps item
74. How do you feel about your own education and training?	N/A	N/A	SWB item
75. How is your health in general (in the last year)?	Health Survey for England[139]	2006	

Question	Source questionnaire	Date	Notes
76. During the past 4 weeks, how much time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?	UK SF-36[154]		Four (five-item) scales
77. These questions are about how you feel and how things have been with you during the past 4 weeks	UK SF-36[154]		Five (six-item) scales
78. How do you feel about your present physical health?	N/A	N/A	MANSA SWB item
79. How do you feel about your present mental health?	N/A	N/A	MANSA SWB item
80. In the last 12 months have you visited any of the following? (GP, hospital for mental or physical health)			
81. How many times have you talked to or visited a GP or family doctor about your own physical health?			
82. How many times have you talked to or visited a GP or family doctor about your own mental health?			
83. Approximately how many times have you attended a hospital or clinic as an outpatient or day patient (do not include Accident and Emergency) for a physical health problem?			
84. Approximately how many times have you attended a hospital or clinic as an outpatient or day patient (do not include Accident and Emergency) for a mental health problem?			
85. Approximately how many days have you spent in a hospital or clinic as an inpatient for a physical health problem?			
86. Approximately how many days have you spent in a hospital or clinic as an inpatient for a mental health problem?			
87. What do you think about your opportunities to improve your health?	N/A	N/A	Perceived Opps item
88. How do you feel about the range of opportunities to improve your health that are available?	N/A	N/A	SatOpps item
89. In what ways if any would you like to change your opportunities to improve your health?	N/A	N/A	Changes to opportunities
90. What is your marital status?	UK Census[144]	2001	
91. Are either or both of your parents alive?			
92. How often are you in contact with your parents?			
93. Do you have any adult children who are not living with you?			
94. How often are you in contact with your adult children?			
95. How often are you in contact with your adult children?			
96. Do you have any children of <18 years who are not living with you?			
97. How often are you in contact with your children?			
98. How often are you in contact with your other relatives?			
99. What do you think about the opportunities you have to contact your family?	N/A	N/A	Perceived Opps item
100. How do you feel about the range of opportunities to contact your family?	N/A	N/A	SatOpps item

Question	Source questionnaire	Date	Notes
101. How do you feel about the amount of contact that you have with your family?	N/A	N/A	SWB item
102. How do you feel about your relationship with your family?	N/A	N/A	MANSA SWB item
103. How many people would you call a friend?			
104. Out of these how many would you call a close friend?	Citizenship Survey, also known as 'People, Families and Communities'[142]	2007	
105. How often do *you* have friends or neighbours to your house?			
106. How often do you go round to other people's (friends or neighbours) houses?			
107. How often do you go out socially?			
108. How do you feel about your relationships with your friends?	N/A	N/A	MANSA SWB item
109. How do you feel about your opportunities for making new friends?	N/A	N/A	SatOpps item
110. What do you think about the opportunities to meet people in your area?	N/A	N/A	Perceived Opps item
111. How do you feel about the range of opportunities that are available to meet people?	N/A	N/A	SatOpps item
112. Overall, how do you feel about the extent to which you are included in society?	N/A	N/A	SWB overall inclusion Item

N/A, not available.

Appendix 3

An example of comments on the earliest version (SCOPE UK version 1)

Is this questionnaire administered by an interviewer or is it self-completion? If self-completion, the routing is unlikely to be reliably followed. If interviewer administered, some of the questions are quite sensitive (e.g. friends and family, mental health). Could it be split into a interview section and a self-completion section?

- Questions 10–12: 'Opportunities available in your area' is an odd expression to use about informal care activities. Some respondents will be engaged in formal volunteering but many more will be involved in these activities for relatives and friends.
- Question 26: May need to give the interviewer instructions about how you are defining a household (see ONS for standard definition).
- Questions 27 and 28: Many people will find these hard to distinguish. Do you need question 28?
- Questions 42–44: Are presumably intended to include domestic violence but questions 37–41 will have put people in mind of the world outside. Would explicit reference to safety both inside and outside the home, or something like that, help to re-focus?
- Question 45: Tick the first category which applies (many people will fit into more than one).
- Question 50: Suitable work for me or for people in general?
- Question 54:
  - (i) List equivalent monthly and weekly amounts as many non-salaried people think of their income in these shorter periods.
  - (ii) Ideally ask a first open question, 'what is your income?', and prompt with bands only if they don't know or are unwilling to say. Unbanded income is much better for analysis.
  - (iii) What income concept are you interested in here? If personal control over finances is the issue, then your focus is right (personal income, before tax). However, if your interest is in income as an indicator of poverty or standard of living, you need to ask about household income, after tax.
- Question 68:
  - (i) People are often unsure which qualifications are higher and lower. Why not ask them to tick all that apply and then code later for highest qualification?
  - (ii) What about National Vocational Qualifications (NVQs)? Scottish qualifications? Why exclude the Postgraduate Certificate of Education (PGCE) – it is the main teaching qualification – where else is it supposed to go? – see Labour Force Survey for a complete list.
- Question 70: List needs updating. The last Certificates of Secondary Education (CSEs) and O-levels were sat about 20 years ago!
- Questions 85–90: Don't you want to know about Accident and Emergency (A&E) as well, separately?
- Question 91: Will respondents understand what is meant by 'formal and informal means'? I'm not sure I do!
- Questions 97 and 98: Add a question on 'current' children, so to speak? i.e. dependants.
- Questions 100–104: Need opt-outs for those who have no family.

Profile:

1. (i) Add household composition (how many adults in your household in total (aged ≥ 16)? how many children aged < 16?) – this is useful for analysis of several questions, including income.
2. (ii) Equality Act 2006 lists six equality characteristics: gender, ethnicity, disability, age, sexual orientation, religion/belief. You have the first four. Sexual orientation is only possible to ask if there is a self-completion module. But you could add a question about religion – see equality pages on ONS website for standard wording.

Appendix 4

SCOPE notes from team meetings

Question 9: How often have you done the following unpaid for someone who is not a relative?

Agreed to change question layout from:

No, not in the last year	Yes, in the last year	Yes in last 6 months	Yes in last 3 months

Followed by question 10 – If you ticked yes above, how frequently do you give this help?

Once a week
Less than once a week but more than once a month
Less than once a month

To:

No, not in last year	**At least once/week**	**At least once/month**	**Less often**	**Other**

And the removal altogether of question 10 for consistency of timescales, and, given the nature of the tasks, to get more meaningful frequency.

Question 69: Involved in adult learning over the past year

Reverse frequency categories to start with year, then 3 months, then 6 months, as if answer is 'no' to year then there is nothing to be gained from asking 6 months and 3 months.

Question 70

As Question 69.

Question 71: Likelihood of engaging in adult earning in the future

Frequency categories go from 3 months, 6 months and 2 years. Agreed change to year as this is the time period of interest.

Question 73: What do you think about the general availability of educational opportunities in your area?

Removed 'in your area' as educational opportunities are not necessarily area based.

Health domain

Need to include a filter question before asking about level/frequency of contact with health.

Question to look like this:

- In the last 12 months, have you visited any of the following? Tick all that apply

GP or family doctor about your own physical health
GP or family doctor about your own mental health
A hospital or clinic as an outpatient/day patient for a physical health problem (do not include A&E)
A hospital or clinic as an outpatient/day patient for a mental health problem (do not include A&E)
A hospital or clinic as an inpatient for a physical health problem
A hospital or clinic as an inpatient for a mental health problem

Move the seven-item delighted–terrible scales to earlier on in the domain, before frequency of contact with health services questions.

A corresponding question for physical health from the SF-36 to go in the health domain.

Family and social

Include filter question 'Are your parents still alive?'.

Question 107

'How do you feel about opportunities to meet people that are available?' is ambiguous – changed to 'How do you feel about opportunities that are available to meet people?.

Appendix 5

Statistical issues

Guidance notes used in our analysis

Mokken scales

Mokken scales are similar to Guttman scales but they are probabilistic, whereas Guttman scales are deterministic. That is, in Mokken scales a respondent answering an item positively will have a significantly greater probability than null to answer a less difficult item in a positive way as well, whereas in perfect Guttman scales answering an item positively means that the respondent will answer all less difficult items positively also.

All items in a Mokken scale have different difficulties, as reflected in different proportions of positive responses. The graphic representation (called a trace line) of the probability of a positive response to an item should increase monotonically as the latent trait increases along the *x*-axis (and where the *y*-axis, of course, is the probability). Double monotony must not exist (that is, trace lines of items in a scale should not intersect). Also, trace lines must be steep enough to produce only a limited number of Guttman errors (exceptions to the rule that a positive answer to an item implies a positive answer to all easier items). Loevinger's *H* measures the conformity of a set of items to Mokken's criteria and validates their use together as a scale of a unidimensional latent variable.

Loevinger's *H* is based on the ratio of observed Guttman errors to total errors expected under the null assumption that items are totally unrelated. Let E = the probability of a Guttman error and let *Eo* equal the same probability under the null model of totally unrelated items. $H = 1 - E/E_o$, as discussed below.

Let item *j* be easier than item *i*, which in formulaic expression means that $P(X_j = 1) > P(X_i = 1)$ – the probability that *j* is 1 is greater than the probability that *i* is 1. Then $H_{ij} = 1 - E/E_0$, where $E = P(X_i = 1, X_j = 0)$ and $E_0 = P(X_i = 1) \times P(X_j = 0)$ for a random subject. When there are no Guttman errors, $H_{ij} = 1$. When the response is random (the null model), $H_{ij} = 0$. (Of course, when computing these values one must recode where necessary so that the 1s and 0s have a consistent meaning across items.)

See also Streiner and Norman (2008: 323–4).

Correlations

Spearman's rho is a form of rank order calculation. It is calculated with the same formula as for Pearson's *r* correlation, but using rank rather than interval data. As scales are rank-order data, rho is often used in place of *r* when correlation is called for, as in inter-item correlations, below. The median rho between all pairs of items in a scale is a classic measure of reliability, in the sense of internal consistency. Rho values > 0.60 are considered to be necessary for an adequate scale.

Interval and ordinal scales

When may ordinal scale data be used in regression and other interval techniques? Technically, never.

As an independent Methodologists use a rule-of-thumb that there must be a certain minimum number of classes in the ordinal independent [Achen (1991) argues for at least five; Berry (1993: 47) states five or fewer is 'clearly inappropriate'; others have insisted on seven or more]. Use of seven-point scales or higher would seem best, but it must be noted that use of five-point Likert scales with interval procedures is extremely common in the literature.

As a dependent One method is to test to see if there are significant differences in the regression equation when computed separately for each value class of the ordinal dependent. If the independents seem to operate equally across each of the ordinal levels of the dependent then use of an ordinal dependent is considered acceptable.

Can Likert scales be considered interval?

Likert scales (e.g. strongly agree, agree, etc.) are very commonly used with interval procedures, provided the scale item has at least five and preferably seven categories. Most researchers would not use a three-point Likert scale with a technique requiring interval data. The fewer the number of points, the more likely the departure from the assumption of normal distribution, required for many tests. Here is a typical footnote inserted in research using interval techniques with Likert scales: 'In regard to our use of (insert name of procedure), which assumes interval data, with ordinal Likert scale items, in a review of the literature on this topic, Jaccard and Wan (1996: 4) summarize "for many statistical tests, rather severe departures (from intervalness) do not seem to affect Type I and Type II errors dramatically" '.

Likert scales are ordinal, but their use in statistical procedures assuming interval-level data is commonplace for the reason given above. Note, though, that under certain circumstances, Likert and other rank data can be interval. This would happen, for instance, in a survey of children's allowances if all children in the sample got allowances of $5, $10 or $15 exactly, and these were measured as 'low', 'medium' and 'high'. That is, intervalness is an attribute of the data, not of the labels. In most cases, of course, Likert and rank variables are ordinal but the extent to which they approach intervalness depends on the correspondence of the ordinal labels to the empirical data.

According to Streiner and Norman (2008), this debate 'shows no sign of resolution' (p. 53) and 'it appears that under most circumstances … one can analyse data from rating scales as if they were interval without introducing severe bias' (p. 53).

Measuring change

Streiner and Norman (2008: 282–285, 294)

Sensitivity to change is ability to capture any change at all, and responsiveness is the ability to capture clinically important change. Simple changes on the SCOPE, such as not having a job at Time 1 but having one at Time 2, are the equivalent of clinically significant change, in that they show that a major feature of social inclusion has been achieved. Losing a job would be equally significant in terms of weakening inclusion.

For continuous variables and scales, Cohen's effect size seems to the most appropriate to use (p. 283). It is the ratio of the mean change to the standard deviation of the baseline scores.

The standardised response mean is the paired *t*-test multiplied by the square root (SQRT) of the sample size.

The standard error of measurement is equal to the standard deviation at baseline multiplied by the SQRT of 1 minus reliability (p. 283).

The minimally important difference, often used in clinical contexts, has been shown to be almost exactly equal to Cohen's moderate effect size of 0.5.

There seems to be a good argument for using the 0.5 figures as a reasonable approximation to a 'threshold of important change'. Furthermore, 'there is remarkable consistency in the empirical estimates of minimal change across a large variety of scaling methods, clinical conditions, and methodologies to estimate minimal change' (p. 294). We adopt this approach, but note that in previous work with the delighted–terrible scale it appears that movement of 1 point out of 7 is frequently statistically significant, and it would appear that a movement of at least one point on the scale can be clinically meaningful also.

Jacobsen *et al.* (1984) outlined three criteria for evaluating change in individuals. The baseline score should be within the range found for known dysfunctional groups (in our case people with serious mental illness); the score at the end should fall within the 'normal' range (in our case healthy people in the community) and the amount of change is more than would be expected by measurement error. In our study we have used the reliable change index to take account of measurement error (p. 295). Hageman and Arrindell (1993) modified this to account for regression to the mean.

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Jacobsen NS, Follette WC, Revenstorf D. Psychotherapy outcome research: methods for reporting variability and evaluating clinical significance. *Behav Ther* 1984;**15**:336–52.

Streiner DL, Norman GR. *Health measurement scales: a practical guide to their development and use*. 4th edn. Oxford: Oxford University Press; 2008.

Websites

1. http://faculty.chass.ncsu.edu/garson/PA765/standard.htm
2. http://faculty.chass.ncsu.edu/garson/PA765/datalevl.htm

Appendix 6

Project protocol

Summary of Proposal

BOX 1 Title of project

RM04/JH27: Development of a 'Social Inclusion Index' to capture subjective and objective life domains (Phase II)

BOX 2 Applicants (note: Section IV should also be completed for *all* applicants)

A: LEAD APPLICANT

Surname(s): Huxley

Forename(s): Peter

Title: Professor

Post(s) held – if not permanent, please indicate tenure: Professor of Social Work and Social Care

Official address: Centre for Social Carework Research, Department of Applied Social Sciences, University of Wales Swansea, Singleton Park, SWANSEA SA2 8PP

B: OTHER APPLICANTS

List separately each individual involved in the research project, giving their name, title, and responsibility:

Name: Dr Sherrill Evans

Job title: Senior Lecturer, Social Work & Social Care

Responsibility: Project management, supervision of research staff, advice on methodology, measurement and data collection, membership of expert panel, data analysis, report writing and dissemination

Official address: Centre for Social Carework Research, Department of Applied Social Sciences, University of Wales Swansea, Singleton Park, SWANSEA SA2 8PP

Name: Dr Alan Watkins

Job title: Senior Lecturer in Statistics

Responsibility: Statistical advice

Official address: School of Business and Economics, University of Wales Swansea, Singleton Park, Swansea SA2 8PP

BOX 2 Applicants (note: Section IV should also be completed for *all* applicants) *(continued)*

Name: Martin Webber

Job title: Social Science Fellow

Responsibility: Assistance with data collection, membership of expert panel, data analysis, report writing and dissemination

Official Address: Social Work & Social Care Section, PO32, Health Services Research Department, Institute of Psychiatry, De Crespigny Park, London SE5 8AF

Name: Professor Martin Knapp

Job title: Professor of Social Policy, Chair of LSE Health and Social Care, Director of PSSRU, Professor of Health Economics and Director of the Centre for the Economics of Mental Health (IoP)

Responsibility: Advice on methodological and conceptual issues, membership of expert panel, report writing

Official address: Personal Social Services Research Unit, LSE, Houghton Street, London WC2A 2AE

Name: David McDaid

Job title: Research Fellow, LSE Health and Social Care and PSSRU, London School of Economics and Political Science

Responsibility: Expert group member, systematic review

Official address: Personal Social Services Research Unit, LSE, Houghton Street, London WC2A 2AE

Name: Dr Tania Burchardt

Job title: Senior Research Fellow, ESRC Centre for Analysis of Social Exclusion (CASE), and Academic Fellow, Department of Social Policy, London School of Economics

Responsibility: Expert group member, systematic review

Official address: Centre for Analysis of Social Exclusion, LSE, Houghton Street, London WC2A 2AE

BOX 3 Potential reviewers

Please suggest three people who we might approach to review this proposal. Please include their area of expertise and full contact details, including e-mail:

Name: Professor Anne Rogers

Job title: Professor of the Sociology of Health Care

Official address: National Primary Care Research and Development Centre, The University of Manchester, Williamson Building, Oxford Road, Manchester M13 9PL

Name: Professor Stephen Stansfeld

Job title: Professor of Psychiatry, Centre Lead for Psychiatry, Acting Director of the Institute of Community Health Sciences

Official address: Department of Psychiatry, Third Floor, Medical Sciences Building, Queen Mary, University of London, Mile End Road, London E1 4NS

Name: Dr Alan Rosen

Job title: Director of Clinical Services

Official address: Royal North Shore Mental Health Services, Chatswood Community Health Centre, 38 Hercules Street, Chatswood NSW 2067, Australia

BOX 4 Summary of research

ABSTRACT OF RESEARCH

No more than 200 words covering the following topics: aims of project; research subject group; sample size, type and location; methods of working.

The overall aim of the proposed study is to develop an index of social inclusion for use in the general population but which is also applicable in routine outcome measurement in mental health services and research. This phase of the study focuses on the further development and testing of the index that was developed in Phase I. It will have five core components: pre-testing to check appropriateness and acceptability; preliminary field testing among representative samples of general population and people with CMDs ($n=250$) and severe mental illnesses (SMIs) ($n=250$); instrument testing and refinement to produce a final field test version; final field testing to check the appropriateness of the measure for routine outcomes measurement in service settings ($n=300$); final psychometric and beta testing. The applicants will draw on the considerable experience of a number of collaborators with expertise in developing measures for use in mental health services and research; service user research; mental health social science research, including social exclusion

BOX 5 Timescale

Proposed starting date: June 2007

Proposed duration: 2 years 0 months

BOX 6 Ethics

(Note: Ethical approval is not necessary at the application stage, however, projects cannot begin until the necessary approvals are in place.)

Is Ethics Committee approval needed?

Yes

If yes, do you foresee any problems with obtaining ethical approval?

None foreseen at this stage

BOX 7 Cost

Total research grant requested from this programme: £199,009

BOX 8 Advertising

Where did you see the advert for this project?

National Co-ordinating Centre for Research Methodology (NCCRM) website.

Details of proposed research

Background to the study

The relevant literature has been summarised in the Phase I report (Huxley *et al.* 2006) and will not be repeated here.

The Phase I project was in four parts.

1. An update of the social exclusion and mental health review undertaken at London School of Economics (LSE), and a parallel review of social inclusion and its measurement.
2. A review of existing measures, whether derived from the formal reviews above, web searches or personal contacts.
3. Nine concept mapping exercises, conducted with differently composed groups, including mental health service users, professionals, and members of the general population.
4. Review of the findings and this report by experts. One expert group consisted of the authors of the report, and the other of the National Institute of Mental Health England (NIMHE) social inclusion research and evidence coalition.

Prior to conducting our Phase I project we consulted with the National Co-ordinating Centre for Research Methodology (NCCRM) to ascertain whether any new measure should be applicable only to people with mental health problems or for a broader constituency. We were told that it should be usable in both contexts and so our project worked on the basis that a general measure, applicable in mental health service contexts (also interpreted widely) would be the most desirable end product. We are assuming that the Phase II call for proposals retains this objective, as it refers to the purpose of the measure being for 'routine outcome measurement' as well as 'mental health research'. We believe that to limit such a measure to mental health research only will contribute to the isolation of such research from that conducted in other clinical and non-clinical contexts, prevent comparative research between different social and clinical groups of respondents, and constitute less value for money than a more general measure of wider applicability. It is also the case that the extent or degree of inclusion or exclusion of any particular group in society cannot be estimated without reference to the same data in the general population. Limiting the development of an index of exclusion to people in receipt of secondary care psychiatric services only would be to commit a similar error to the development of a psychiatric nosology based on secondary care cases only (Goldberg and Huxley 1990) and could result in a partial, incomplete or even mistaken picture.

Phase I findings

- Social inclusion is widely agreed to be:
  - relative to a given society (place and time)
  - multidimensional (whether those dimensions are conceived in terms of rights or key activities)
  - dynamic (because inclusion is a process rather than a state)
  - and multilayered (in the sense that its causes operate at individual, familial, communal, societal and even global levels).
- Any measure of inclusion needs to be able to accommodate the above characteristics.
- We identified two broad approaches to the measurement of social inclusion: (1) social indicators of inclusion and (2) perceived inclusion measures. The proposed measure should encompass both aspects.

- The reasons for wanting to use an index of inclusion are variable, and include policy, theory, practice, evaluation, research and 'real-world' uses. It may be that one index that fits for all of these purposes cannot be created, and it may be that the indicator approach is better for policy purposes and the perceived inclusion approach for clinical and 'real-world' purposes. It may be that for other purposes some combination of both approaches might be valuable and acceptable, but this has not been tested to date.
- We found that there were several existing social indicator measurement exercises that might be used to produce a social indicator based measure of social inclusion. We cite the main candidates for this in the main Phase I report (Huxley *et al.* 2006).
- Another option (parallel to the suggestion of Levitas *et al.* regarding an exclusion index) is that there should be a social inclusion module incorporated into a UK longitudinal household survey. The disadvantage of this is that household surveys may miss the most excluded groups. The development of a new measure would permit this option to be explored subsequently.
- A further option is that an index might be garnered from existing UK social surveys, and Levitas *et al.* identified the most promising ones for young people, older people and adults of working age. One disadvantage of this approach is that the wording of the questions is predetermined and may not be the most fit for purpose or acceptable to respondents.
- A disadvantage of all the indicator approaches is that it is often unclear why certain indicators have been chosen above others, by whom they were chosen, and that the form and content of the questions used may not be acceptable to the respondents.
- On the basis of the evidence we have reviewed we suggest that any proposed social inclusion index should focus on the availability of opportunity to access material and other resources, and the subjective view of this availability. It should address the extent to which the person participates in these life activities, and also the person's subjective perception of the value or benefit of these activities for themselves. It should also assess the degree to which the person wishes to have more or less or the same level or type of participation in each life domain, otherwise it is not possible to encompass the feelings of those who are satisfied with what might be a low level (personally and normatively) of activity through choice. While everyone in society has the right to participate in a way that facilitates social inclusion, individuals have different needs for access and participation; therefore an index of social inclusion needs to capture individual perception of inclusion rather than simply imposing standards from outside.
- There is no single, tested and robust measure of social inclusion of this sort that is an accepted standard measure. Measures of the component parts of a possible measure, such as access to material goods, etc., and social and community participation, are available, but usually do not have adequate psychometrics, with the exception of the Van Brakel measure, and there are some reservations about its use. The instrument developed by Wilson, currently being applied in North Adelaide, might prove to contain some useful scales, but the results have not been reported yet. Wilson has agreed (personal communication, 23rd January 2007) to the sharing of information and possible research collaboration).
- We are therefore left with the need to create a new index, as suggested in our draft Phase II proposal submitted with our Phase I proposal. We think that it is worthwhile attempting a combined approach, rather than leaving social indicator research to one group of investigators and perceived inclusion research to another.

Purpose: aims and objectives

The overall aim of the proposed study is to develop an indicator of social inclusion for use in routine outcome measurement in general settings and in mental health services and in mental health service research that reflects the views of people with mental health problems, their carers and professionals in the field, and, which is reliable, sensitive and valid. The study objectives are to produce a robust measure of social inclusion that:

- is multidimensional and captures multiple life domains
- incorporates objective and subjective indicators of inclusion
- has sound psychometric properties, including responsiveness;
- facilitates benchmark comparisons with normative general population and mental health samples, including common mental disorder (CMD) and severe mental illness (SMI) groups
- can be used appropriately with people with mental health problems receiving and not receiving support from mental health services
- can be used across a range of community service settings.

Sample sizes

This project involves the creation of a new instrument and so we have no data upon which to base power calculations. However, we have based sample sizes on our previous experience of measure development, and what we know is achievable in the time available. Where possible we have based sample sizes on power calculations from previous instruments of known relevance to social inclusion, such as some of our quality-of-life scales, and categorical variables such as the rates of unemployment.

Methods

The following process is informed by the criteria for instrument developing and testing suggested by the Scientific Advisory Committee of the Medical Outcomes Trust (Lohr *et al.* 1996). These include the following face and content validity, respondent burden and completion rates, distribution of scores, repeatability and construct validity (discriminant and convergent) (further details below).

Phase II has six core components:

1. Determination of the most appropriate questions and wording to capture the objective and subjective responses required to populate *Table 1* below (large version).
2. Pre-testing to check appropriateness and acceptability; cognitive appraisal and user views.
3. A large-scale test of the large version in a population sample in order to obtain data for subsequent data reduction. This component will include a substudy in which measures of other concepts such as participation and social capital will also be completed in order to conduct a latent analysis to clarify the relationships between these concepts, and to explore aspects of validity. It will also enable us to compare the results for those with CMD (scoring over the threshold for caseness on the General Health Questionnaire (GHQ) with those without (under the threshold).
4. Data reduction and latent analysis. Data reduction would be undertaken on the large sample (3) above, using appropriate techniques, as outlined below. This will result in a reduced version for operational purposes, although the full version, providing its psychometric properties are adequate could be retained for research purposes.

5. Final field and psychometric testing (short version) in samples, including people with CMDs such as depression and anxiety, people with SMIs, such as schizophrenia and bipolar disorder, etc. and people with no diagnosed mental health problem, in order to determine acceptability and psychometric properties, such as test–retest reliability, inter-rater reliability and responsiveness and stability.
6. Beta-testing in multiple services with major social intervention components to confirm suitability for use in mental health services research and routine outcome measurement. These services will need to be offering something designed to improve service user inclusion in some specific mainstream activity or activities. A database of such services has been created by the NIMHE social inclusion programme.

Component one: selection of questions and wording

The NIMHE social inclusion coalition, including service users and carers, will meet to consider questions in each of the domains identified in the Phase I project (see *Table 1*). Candidate questions and wording will be reviewed and consensus reached on a draft version; previous work by members of the NIMHE social inclusion coalition (Bates, Davis, Secker and Huxley) has produced a number of different options for questions. Part of this process will involve recontacting some of the members of our original concept mapping groups and also those organisations responsible for the development of social indicator measures from existing survey data (identified in the Phase 1 report) to obtain their opinions and feedback, for example Office of National Statistics (ONS).

TABLE 1 The social inclusion matrix

Domain content	Opportunity of access to material resources/ existence of rights	Perceived access to resources/ perceived entitlement	Participation/ actual realisation of rights	Perceived participation/ perceived realisation of rights	Choice/improved or changed entitlements
Family activity	Family exists and participation possible	Perceived adequacy	Actual level of contact	Benefit/value	More/less/same/different
Social activity	Opportunity exists for social participation	Perceived adequacy	Actual social contacts	Benefit/value	More/less/same/different
Work	Economically active	Perceived availability	Level of activity	Benefit/value	More/less/same/different
Income	Has income	Perceived adequacy	Level of income	Benefit/value	More/less/same/different
Political and civic	Access to voluntary or civic opportunities	Perceived adequacy	Level of participation	Benefit/value	More/less/same/different
Community facilities	Community facilities exist and can access	Perceived adequacy	Use of facilities	Benefit/value	More/less/same/different
Financial services	Access to financial services	Perceived adequacy	Use of services	Benefit/value	More/less/same/different
Neighbourhood safety	Access to neighbourhood	Perceived adequacy	Actual activity levels	Benefit/value	More/less/same/different
Housing quality	Access to adequate housing	Perceived adequacy	Actual quality	Benefit/value	More/less/same/different
Transport	Actual availability and accessibility	Perceived availability	Actual level of use	Benefit/value	More/less/same/different
Leisure activities	Access to range of leisure activities	Perceived availability	Actual use	Benefit/value	More/less/same/different
Mental health	Access to mental health care	Perceived availability	Actual use	Benefit/value	More/less/same/different
Physical health	Access to physical health care	Perceived availability	Actual use	Benefit/value	More/less/same/different
Educational attainment	Access to educational opportunities	Perceived availability	Actual use	Benefit/value	More/less/same/different

Without prejudging the actual questions to be used (as indicated earlier, there are several different, albeit incomplete options available), Bates has provided some pertinent examples, which fit into this style of enquiry (see below).

- Are you working?
- Is work easily/readily available?
- How many hours a week do you work?
- How do you feel about the availability of work? (delighted–terrible)
- How do you feel about the work you do? (delighted–terrible)
- Would you like to work more or fewer hours than you do, or change your job?
- Do you think that you are generally safe where you live?
- Do you walk around safely in the day?
- Do you walk around safely at night?
- How do you feel about your neighbourhood safety? (delighted–terrible)
- Would you like the area to remain the same or be more safe, or would you like to move away?
- Are you making use of any type of educational opportunity (classes, etc.)?
- Are educational opportunities readily available to you?
- How often are you making use of them?
- How do you feel about the opportunities available? (delighted–terrible)
- How do you feel about your educational activities? (delighted–terrible)
- Would you like to take up more educational opportunities, remain the same, or do less?

It is perhaps worth emphasising at this point that the delighted–terrible scales for the assessment of subjective items continue to be widely used both in the UK and the USA in community mental health studies (e.g. most recently in Nelson *et al.* 2007). This enables data to be accumulated on the same measuring scale and domain items and results from different services and research projects to be compared by location and over time.

Component two: pre-testing (larger version)

The draft instrument will be tested in a convenience sample of 30 people aged between 18 and 65 years, including those with and without mental health problems, and balanced for gender and suitably profiled for age. People with mental health problems will be identified in association with our partners (NIMHE social inclusion coalition members). All participants will be provided with information about the study at the time of request to participate, and it will be explained that participation is voluntary, will not affect the provision of any services that they may be using, is confidential, and that ethical approval and research and development approval has been sought from the appropriate authorities. The purpose of the pre-testing is to clarify ambiguities in question wording (using cognitive appraisal techniques to assess question wording, together with further questions concerning aspects of face validity, content validity and respondent burden), to confirm the appropriateness of response scales, to determine acceptability and to estimate completion time. We successfully undertook a similar exercise in the development of the Quality of Life in Later Life (QuiLL) assessment. Participants will be interviewed in their own homes, unless they prefer to be interviewed elsewhere. Appropriate modifications will be made to the questionnaire, on the basis of this exercise, to produce a preliminary field test version.

Component three: field testing (longer research version)

This version of the instrument will be tested in a sample of 250 people, including mentally healthy people in the general population, and people with CMDs. This sample will be drawn from the general population.

The preliminary field-testing is to determine item response rates and acceptability in the group as a whole, and in different mental health status groups. Accordingly, a further sample of 50 MHSUs

will be assessed using this version of the instrument (sourced from either SLAM or the NIMHE social inclusion coalition members, or Hafal in Wales). We will examine the data for systematic differences in the response to the questionnaire between groups.

Conceptual substudy

As part of the field testing of the larger version a number of other instruments will also be competed in order to assess the overlap with other constructs. Based on Phase I, the main candidates are a participation measure (van Brakel *et al.* 2006) and a social capital measure [Resource Generator United Kingdom (RG-UK), Webber and Huxley (in press)] (these are included as Appendix B) together with an indicator of anxiety and depression (the GHQ12). More instruments or constructs assessed would be over-burdensome, and the Phase I project showed that these are the main related concepts. According to some recent findings (SSI 2005) the dropout rate or respondent burden is hardly any greater for an interview of this length than for shorter interviews.

This part of the study (data gathering and cleaning only) will be outsourced to a survey organisation, and the investigators will award the task to the most cost-effective proposal (within the specified budget). We have consulted three survey companies and are in the process of selecting the most cost-effective solution (see section on data sources for more details).

Component four: item selection and data reduction

On the basis of component three data we will select items for the final version of the questionnaire. Standard psychometric techniques for item analysis and selection criteria will be applied to preliminary field test data as part of the instrument testing and refinement phase, including:

1. evaluation of discriminatory power and frequency of endorsement of items; items endorsed by more than 90% and fewer than 10% would be excluded but will need to be carefully applied in the different population subgroups; for example, if it is above 10% in the general population, but below 10% in the mental health sample we would not necessarily discard the item as it may be important
2. determination of item overlap and/or redundancy, examination of the intercorrelation between items
3. assessment of homogeneity of items
4. item convergent and discriminant validity analyses
5. evaluation of the reliability and validity of individual items.

Further data reduction will be undertaken using exploratory factor analysis and item response methodology. See the analysis section for the justification for the use of item response theory for internal scaling and Appendix A for more technical details.

Component five: final field testing and psychometric testing of the final instrument (short operational version)

Final field test data will be analysed cross-sectionally and longitudinally, as part of an evaluation of the psychometric properties of the questionnaire, including its reliability, validity and responsiveness. The final version of the questionnaire will be evaluated according to the gold standard criteria for reviewing instruments used by the Medical Outcomes Trust (Lohr *et al.* 1996). At this stage the questionnaire will be assessed in respect of: conceptual and measurement model, reliability, validity, responsiveness, interpretability and burden. The analysis of reliability, responsiveness and validity is described in detail in the analysis section. In order to test the generalisability of the index and ability to capture the extent of inclusion in excluded groups we

propose to assess a group of younger people with arthritis, through a project already under way at LSE (this will form part of the LSE contribution to Phase II).

Component six: beta-testing

A training package will be developed for (and with) mental health service practitioners, to inform understanding of how to conduct standardised research interviews, how to use the instrument, how to analyse, interpret and present results, and how the results might be used to inform practice. Practitioners involved in the NIMHE social inclusion programme (social workers, nurses, psychiatrists, psychologists and others working in mental health teams) will be offered this training and asked to use the social inclusion index routinely in their day-to-day practice, collecting data on new referrals to each service providing some intensive form of social care. Data entry and analysis services will be offered to participating agencies by the Centre for Social Carework Research at Swansea.

Alternate forms – different cultural, ethnic and language adaptations (with the exclusion of a Welsh version produced by University of Wales, Swansea, at no cost to the study) – will not be tested at this stage, as it is a costly process, which is beyond the scope of this study, given the available resources; further adaptation will be a necessary future development of the work (but see below for the developing international collaborations). Similarly, a self-response version of the long and short versions would require resources beyond the present study, and alternative sources of funding are being investigated by the applicants.

A note on sampling sources

The community sample will consist of 250 interviews with adults aged 18–65 years, using random preselection from the Postal Address File. The organisation undertaking this work has a high standard of fieldwork using experienced social research interviewers employed directly by them. A company profile is available on request from the applicants. At least three visits will be made to each household selected – at different times of the day (including evenings), and different days of the week – to achieve a high penetration rate. The company regularly produces samples of 66–70%+ using this method. The sample will comprise 50 households to be drawn from each of five main areas – for example: Swansea; Cornwall; East Anglia; Birmingham; Manchester/Liverpool. In each of the five areas to be sampled we will identify two subareas to achieve a good overall balance of urban–rural and prosperous–less prosperous areas. The sampling structure will be 10 subareas×25 interviews in each. Interviews will normally be conducted with the head of household or partner, but it may be necessary to make quota-based adjustments to include alternative members in some cases. The interview questionnaire will not exceed 60 minutes and, ideally, will be less and interviews will be undertaken using a computer-assisted personal interview CAPI system. Interviewees will be offered a £10 incentive in the form of a multistore voucher (this cost is included in the overall survey costs, which also include VAT). Following fieldwork, the company will capture and clean the data to supply a clean SPSS file.

Service user samples, will come from NIMHE social inclusion coalition members, including SLAM and Oxleas and South Essex Mental Health Partnership Trust, and we will be seeking NIMHE social inclusion coalition sites closer to Wales with a view to reducing travel costs. The main service user samples are collected from month 7 onwards, and several are in the second year of the project. Locations for these samples will depend upon research governance and ethics committees approvals, which will be sought in partnership with service providers. Locations which are subject to less research demand at the time will be the favoured ones. The NIMHE social inclusion group meets on a regular basis, and has regular communication mechanisms set

up. As well as providing critical feedback on progress reported in year 1, the group's assistance will be sought to locate suitable sites and samples for the final field testing.

Analysis

Component two

Pre-testing data, including questions about respondent burden will be analysed using descriptive statistics.

Component three

As we are interested in both the theoretical solution using all the instruments applied in the survey we will use factor analysis at this stage. The substudy analysis is intended to ascertain whether there are different constructs – such as participation, social inclusion and social capital – or whether they are all based on a single underlying factor.

In addition, between-group differences in objective and subjective indicators of social inclusion (e.g. mental health status – problem/no problem; age; gender, etc.) will be examined using chi-squared statistics for categorical variables and independent samples *t*-tests or analysis of variance (ANOVA) statistics for continuous variables. The association between objective and subjective indicators of social inclusion will also be assessed, using correlation coefficients, chi-squared statistics and independent samples *t*-tests or ANOVA statistics. Non-parametric equivalent tests (Mann–Whitney, Kruskal–Wallis, Spearman correlation) will be applied if the distribution of samples is skewed or if sample sizes are inadequate for parametric tests. Skewness of data will be assessed using the following formula: skewness/standard error of skewness = ± 1.96.

Component four

As in the development of the QuiLL (Evans *et al.* 2005), the first stage of data reduction will involve a psychometric evaluation of the properties of the instrument. This process will establish the reliability of individual items, item overlap, redundancy, frequency of use and missing items. The internal consistency of the resulting scales will be examined using Cronbach's alpha coefficient to identify scale items that can be removed without detracting from the psychometric properties of that scale.

Factor analysis will then be undertaken in order to reduce the number of questions by eliminating those that fail to load on the key factors. Suitability of the data for factor analysis will be assessed by Bartlett's test of sphericity (which should be significant, $p < 0.05$) and the Kaiser–Meyer–Olkin measure of sampling adequacy (which should be a minimum of 0.6). The decision on the number of factors to retain will be based on Horn's parallel analysis, using Monte Carlo Principal Component Analysis.

As traditional psychometric analysis such as factor analysis assumes an interval level of measurement,[131] this might not be the most appropriate method for item reduction and scaling. Item response theory models, which have been developed for variables measured at a nominal or ordinal level, might offer a more sophisticated and comprehensive approach to detecting scales within the social inclusion index. Since the index is likely to include variables measured at nominal, ordinal and interval levels, we will use both methods of analysis, details of which are given below. This approach is justified because the categorical measures can be entered as 0,1 into the factor analysis, and the continuous variables such as the subjective rating scales can be dichotomised for use in item response testing.

Further technical details about item response theory are given in Appendix A.

Component five

Reliability analyses (e.g. internal consistency, test–retest reliability, inter-rater reliability, etc.)

Internal consistency will be tested using Cronbach's alpha statistics, calculated separately for total and any domain subscale scores. Test–retest reliability refers to the stability of a measuring instrument and is assessed by administering the measure again to a subsample ($n = 50$) of services users, within 1 or 2 weeks of an initial assessment. The two sets of data are then compared using correlations and Kappa statistics, to check the level of agreement between the two data sources. A proportion of these interviews will involve two researchers making separate ratings, which can be compared afterwards for inter-rater reliability.

Validity analysis (content validity and construct validity)

Content validity is demonstrated by evidence that items assess content that respondents perceive is relevant to the construct of interest. Content validity has been assessed qualitatively during Phase I through the concept mapping groups, literature review and in the expert panel (as suggested by Atkinson and Lennox 2006); it will also be informed by an evaluation of the questionnaire, conducted during the pre-testing stage. Construct validity will be evaluated through within-scale analyses, including an examination of internal consistency, intercorrelations between total and subscale scores, and testing of hypotheses about whether the scale is able to differentiate between groups (e.g. different mental health status). Comparisons will be made between the scores on the new scale and on previously tested measures, which reflect aspects of social inclusion. A number of interviews ($n = 50$) will be undertaken after the respondent has completed a measure based on an entirely different approach to the measurement of social inclusion (such as the participation measure of van Brakel *et al.* 2006). This will be completed (randomly before or after) the new social inclusion index and the results compared in order to test the new measure's validity (on the assumption that, although in Phase I we found no perfect criterion measure, the participation measure came the closest in its conception to our understanding of the concept of social inclusion in the literature). A further 50 respondents will be assessed using the Social Interview Schedule (SIS) (ref), which is an interview to assess objective and subjective social circumstances, and the researcher's judgement of the respondents 'management' of their own performance within each of the included domains. PH will provide training in the use of the SIS. The SIS will be completed after the new social inclusion index and the results compared by domain. There should be a closer relationship with the objective SIS responses than the subjective or management scores. The ability to reflect the status of excluded groups other than people with mental health problems will be assessed in a similar sized group of young people suffering from arthritis. Comparisons between the mean scores of different mental health status groups (CMD and SMI), arthritis and well groups will be undertaken using ANOVA for continuously distributed variables and chi-squared tests for categorical variables in the three groups.

Responsiveness analyses

Responsiveness will be evaluated using (1) change scores between Time 1 and Time 2 to determine effect size and (2) by comparing change scores with a single item transitional rating (one in each of the main domains) based on the perceptions of the professionals involved in an individuals care (e.g. how would you rate the situation now compared to 6 months ago when you first started working with this person? 1 = much better, 2 = slightly better, 3 = no change, 4 = slightly worse, 5 = much worse) (we have experience of using a worker-rated scale of this kind in Colorado, using the Colorado Client Assessment Record – Evans and Huxley 2000).

Responsiveness will be assessed in a group in receipt of services aiming to improve their social inclusion. Service inputs will be recorded using the short version of the Client Service Receipt Inventory. 50 service users will be re-assessed 6 months later, by the researchers, using the

social inclusion index and these results will be compared with Time 1 ratings to assess change; change scores and effect sizes will be computed and compared with a global rating of change in social inclusion based on the professional's perception; changes in objective and subjectively assessed social inclusion will also be compared, all of which will provide preliminary data on the responsiveness of the scale.

The data will also be analysed to examine the association between objective and subjective indicators of social inclusion and to assess the impact of mental illness (common or severe) on different aspects of social inclusion, using univariate and multivariate techniques. Associations between domain appropriate objective and subjective social inclusion and global subjective ratings of inclusion will be examined using correlation and regression coefficients. Differences in objective and subjective indicators of social inclusion between different mental health status groups (e.g. mental health status – problem/no problem; age; gender, etc.) will be examined using chi-squared statistics for categorical variables and *t*-tests or ANOVA statistics for continuous variables, and in multiple regression models. Again their non-parametric equivalent tests (Mann–Whitney, Kruskal–Wallis) will be applied if the distribution of samples is skewed or if sample sizes are inadequate for parametric tests.

Outputs

- Interim (after year 1) and final reports.
- Validated questionnaire for use in operational and community settings.
- Longer questionnaire for use in research.
- Development of training materials for the beta-testing stage.
- Wide dissemination through the NIMHE social inclusion coalition meetings and newsletters and Making Research Count – a national network of social work academic departments for the dissemination of research findings to policy-makers, service managers, professionals, service users and carers.
- International collaborations – workshops, conferences, etc. We already have international collaborative plans to take forward work on the new index, developing culturally appropriate translated versions in Hong Kong and Taiwan, and further plans to apply for funds for this part of the work being taken forward with partners in these locations plus Adelaide, Tasmania and Melbourne. In addition, collaborators in the Social Carework Research Network – Europe, some of whom have already worked on aspects of inclusion and exclusion, have expressed an interest in cultural adaptations of the instrument. At present, these come from Dublin, Hungary, Cyprus, Lithuania, Greece, Finland and Germany.
- At the conclusion of the project we could consider putting the measure forward as part of relevant national surveys. The Department for Work and Pensions recently bought into eight waves of the Omnibus survey for their (baseline) monitoring survey (regarding Public Service Agreement objective to increase opportunities for disabled people). NV is on the project board for re-commissioning the Psychiatric Morbidity Survey; she has already raised the issue of developing the content in relation to social inclusion/social capital/social participation, and the experience of stigma and discrimination. This is one of a number of possible options for the use of the Index that we would expect to take forward. Another area in which we would hope to take on further would potentially be to replicate some of this work in other European settings, building on European collaborative links within the team, as well as to analyse the findings further in so far as they fit with predictors of social exclusion identified as part of a systematic review on the links between social exclusion and mental health undertaken at the LSE.
- Academic and professional papers.

Scheduling

Ethical approval will be sought from the appropriate bodies: for Components 1–3, the University Ethics Committees and Association of Directors of Social Services; for Component 5, Central Office of Research Ethics Committees. Start date: June 2007.

Components	Timing (months)	Sample sources and sizes
1. Question and wording, ethics approvals	1–3	N/A
2. Pre-testing	4–6	Convenience sample; 20 people, half male and female, range of ages, and 10 people with mental health problems, half male and female, range of ages
3. Preliminary field testing and substudy	7–12	Random community sample 250 people; random sample from mental health service(s) 50 people
Interim report		
4. Data reduction	13	N/A
5. Final field testing and psychometrics	14–20	Test–retest within 1 or 2 weeks, 50 service users
		Construct validity (1) 50 service users also complete a participation measure (2) 50 service users also complete the SIS
		Responsiveness analysis 50 people receiving services 6 months after first assessment
6. Training package and beta testing	21 onwards	Not known, will extend beyond the life of the project, and take place in several different service settings
7. Report writing feedback and dissemination	21–24	
Final report		
8. International developments, self-complete and minority specific versions	N/A	Further funding to be applied for

N/A, not available.

The expert group will meet at least twice each year, dates to be arranged to coincide with key points above, the end of pre-testing and the end of the survey in year 1, and the end of data reduction and field testing in year 2.

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Appendix 7

SCOPE User Guide

Social And Community Opportunities Profile:

User Guide, Issue 1.0, April 2011

SCOPE

Information and instructions

Background and development

The Social and Community Opportunities Profile (SCOPE) is being developed as a measure of people's opportunities for social inclusion and participation. The venture has been funded by the National Institute for Health Research Health Technology Assessment research programme. The brief was to produce an instrument (SCOPE) that:

- is multidimensional and captures multiple life domains
- incorporates objective and subjective indicators of inclusion
- has sound psychometric properties, including responsiveness
- facilitates benchmark comparisons with normative general population and mental health samples, including CMD and SMI groups
- can be used appropriately with people with mental health problems receiving and not receiving support from mental health services
- can be used across a range of community service settings.

It is specifically for use in a mental health context, but an extended version has been used in a community survey in England and Wales.

Mental health policy in England and Wales is focused on achieving the best outcomes for individual service users and carers. In the consultation over the new mental health strategy, the following were emphasised:

- Services need to develop measures and tools to ensure care is planned around user-defined goals and QoL outcomes.
- Many aspects of inclusion were suggested, based largely around housing, education, work, recreation and money. One person described 'the pivotal moment' in their improving health being getting a nice flat with a secure tenancy.

These new perspectives on mental health services have been neatly summed up by Rachel Perkins, who says:

- The aim over the next 25 years should be to reduce the centrality of mental health services in people's lives and completely rethink the balance between professional help and wider support with life.

- Mental health services should be in the background providing easy access to the best treatment available when needed to assist people to thrive in all the roles that are important to them, as partners, family members, workers, football players (or if you are in Wales, rugby players).
- The technical expertise of traditional mental health professionals remains important … but it should be 'on tap' not 'on top'. (p. 35)

(Perkins R. Professionals: from centre stage to the wings. In Grove R, Duggan S, editors. *Looking ahead. The next 25 years in mental health.* London: Sainsbury Centre for Mental Health; 2010. pp. 34–6. URL: www.centreformentalhealth.org.uk/pdfs/Looking_Ahead.pdf)

Versions

- Long research version used in community survey.
- SCOPE reduced version for use in mental health services.
- SCOPE on-line version.
- Islamic version (see below).

Questions

All of the questions about personal circumstances are derived from publicly available national surveys such as the Census. The format of the question in each case is the same as the survey from which it was taken.

The subjective questions that accompany the survey questions are rated on a seven-point scale from 7 (delighted) to 1 (terrible). This format has been used internationally for several years, providing comparable data from service user groups. As a result, it is best not to reduce the length of the scale.

Responses are grouped in several life domains, such as leisure, finances, family, work, etc. Although you may wish to use only part of the SCOPE in your own setting, we do not yet understand whether individual domain scores remain the same when extracted from the main SCOPE. We would suggest using the whole instrument until we have a better understanding of use of some parts only. If you are planning to use only part of the SCOPE please contact us; we are interested to document and evaluate different uses of SCOPE.

Scoring

There are a number of different ways of scoring the SCOPE, scales and individual items.

Potential uses

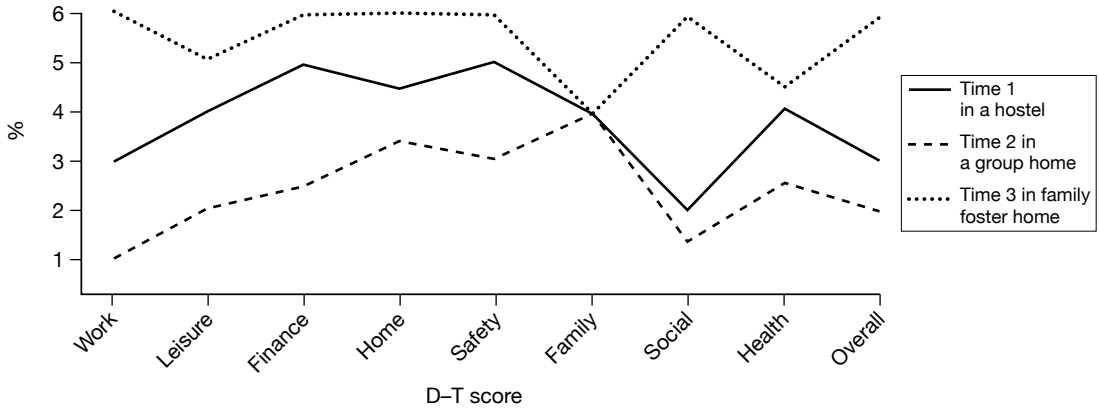

FIGURE 7 Routine outcome assessment in life domains.

Figure 7 is an example of changes taking place in subjective ratings for one individual who was moved when his hostel was closed, and whose situation deteriorated when in a new group home. Based on this deterioration in his scores, he was placed with a foster family and his scores all dramatically improved, with the exception of his ratings for his own family, which remained constantly poor. No intervention in relation to his own family was taking place.

One-off assessments

As part of a clinical assessment package, the SCOPE could be used to assess the individual's circumstances in respect of inclusion and participation, and where if at all they need some form of assistance to achieved desired changes.

Visual feedback

Graphics of the sort in the figure above can be produced for individuals. This can be done very simply using an Excel spreadsheet. Enter scores in two rows above each other, for Time 1 and Time 2 responses on the delighted–terrible scale (1–7) by domain, and then highlight the scores in both rows and press the 'Chart Wizard' button and select the presentation style that you want.

Comparison with other groups and local population

In many instances the national surveys can be broken down to locality level, and so it becomes possible to compare the inclusion levels of service user samples to the local population figure, for example from the Census data.

Here are some SCOPE comparisons between a deprived community in North West England with national data from the NPMS. Satisfaction with leisure activity in the area sample is significantly lower than the national average.

Local area sample (national average)

- 80/100 feel leisure opportunities are restricted (64%)
- 83/100 want a more active social life (62%)
- 47/100 want to participate more fully in family activities (28%)
- 56/100 not a member of community groups (47%)
- Satisfaction with leisure activity 3.7 (4.3) ($p < 0.001$).

Here are some further comparisons between a service user sample and the comparable figures in the local area.

Service user sample (local population averages)

- 5% employed compared with 61%
- 24-hour working week compared with 38 hours
- 53% seen friend last week compared with 80%
- 57% have a close friend compared with 95%
- 16% contact + relatives less than monthly 30.%

As some of these items will vary by gender and age, make sure that, where available you disaggregate the data to permit age group and gender comparisons.

This shows the low employment levels in service user populations compared with the local level, and, for those in work, fewer hours worked and at a lower rate of pay (not shown).

The following histogram (*Figure 8*) shows the differences between the SCOPE scales for healthy people with no illness (general population), people with severe mental health problems (SMI) and people with CMD (anxiety and depression).

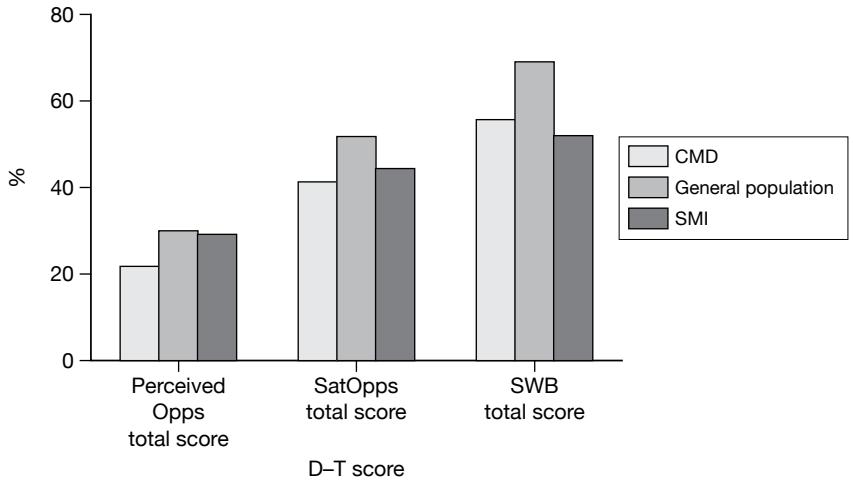

FIGURE 8 Subjective scales by mental health group.

Social and Community Opportunities Profile and related publications (in the public domain or available from the authors)

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Social and Community Opportunities Profile: guidance on administration

1. Ensure that you and your agency have sufficient copies available of the current version of the SCOPE.
2. You can complete SCOPE as an interview or it can be self-completed by the individual themselves. If the latter is the case you can stay with them if they want you to, in case they have any queries about the questions. You should indicate on the form whether it was completed by interview, self-completion or a mixture of the two.
3. If the purpose is not research but routine assessment or follow-up then a formal record of informed consent may not be required.
4. Please record the service user ID on the form, for future reference and any subsequent completions
5. At the outset, whether for research or service use, please remind the person completing it that all their responses will be held securely and confidentially as is the case with all service records at the agency.
6. Also, if appropriate, you may indicate that they can ask for a break during completion. It is best if the whole SCOPE can be completed at one sitting.
7. After completion the physical copy needs to be scored and securely stored.
8. If you are sending the data to a central source for processing, or to Swansea University for processing, you may wish to keep a copy for your records.
9. If you wish to score the completed SCOPEs yourself please follow the instructions given above.

Frequently asked questions

Are translations available for minority groups?

- Welsh translations are available. No other translations have been undertaken. We have been working with an Islamic community support service to develop a version for use in Islamic communities in the UK. At present this version is, on the advice of the service managers, in English, and has one additional section on beliefs and their importance to the individual.

How suitable is this instrument for persons with SMI?

- It has been designed and used in a mental health context and is suitable for use with people who have severe illness. It should not be used when the person is in an acute phase of illness with severe symptoms of psychosis or clinical depression.
- No adverse events or reactions have been documented during the course of using it with clients of community mental health teams, or independent sector mental health services.

Are the questions understandable and do they make sense to homeless persons?

- In most instances homeless people are in some form of shelter. The questions are understandable and can be used in this context. People living on the street could answer the accommodation questions.

Are the questions understandable and do they make sense to those with severe cognitive impairments?

- No, we have not tested the SCOPE on people with severe cognitive impairment and would not expect them to understand many of the questions, or to be able to recall the answers if they did understand the question.

- From our previous experience in assessing the QoL of people with mild to moderate dementia, (using some of the same SCOPE questions) we have found that they are able to understand and express an opinion. We wrote a paper entitled, 'Just because I don't know where I am doesn't mean I don't know what I like'.

Are the questions understandable and do they make sense to patients recently discharged from psychiatric hospitals?

- The original QoL work, which used the same life domain structure and the same SWB scale, was devised for people who were long-stay hospital patients, most of whom returned to the community. Many of the study samples used to develop SCOPE were people discharged from hospital to the care of community teams, so we would be confident that this group would have no problem with the SCOPE.

Can it be used in community surveys?

- The short version has only been tested to date in surveys of students and people with mental health problems. Please contact us if you are planning a community survey.
- The original long research version could be used should you want to compare your community sample results with ours, and with the normative data from the original surveys.

How do different versions differ?

- The Islamic version has a section on belief, which follows the same structure as the other life domains.

Are you able to offer help in analysing my data?

- If you supply us with the details we need we can produce you results in a format to suit you. We would also calculate how much of the change observed in your sample, can be said to be reliable change using appropriate estimates. We have a brief Powerpoint presentation available for those wishing to calculate reliable change (in group data) for themselves.
- We would not charge for this service but would ask to keep an anonymised set of your data to add to our SCOPE databank.

Where can we get hold of you and SCOPE?

- Sally Madge
- Peter Huxley
- Sherrill Evans
- Karen Evans

Contact details:

- Postal address: Centre for Social Work and Social Care Research, College of Human and Health Sciences, Swansea University, Singleton Park, Swansea SA2 8PP, UK.

Scoring and analysis

Although there are several ways that the SCOPE can be broken down into scales, we recommend that the following scales have the best psychometric properties.

- overall inclusion – this is a single figure on the delighted–terrible scale of 1–7
- Perceived Opps scale – sum of items #
- SatOpps scale – sum of items #
- participation scale – 013 items
- all of the objective items are single figures and should not be added into a scale, but treated independently – 014 items
- to measure change over time the scales should be compared using paired *t*-tests, and the O-variable and P-variable by chi-squared analysis.

Appendix: examples of information sheets and consent forms for research purposes

SCOPE

Social and Community Opportunities Profile

Social and Community Opportunities Profile is intended to allow you to describe where you are up to in terms of your opportunities for social, leisure and community participation. There are no right or wrong answers.

All the questions used in SCOPE are drawn from UK national surveys of the general population. You are therefore being asked the same questions as thousands of people in the UK. The areas (called domains) included in SCOPE are those that are generally agreed to contribute to our quality of life.

Our previous work not only shows that people generally find these questions easy to answer, but also welcomes the chance to answer questions that are more about recovery than about illness. However, if you are finding it at all difficult or in some other way a problem then please tell the person who is interviewing you.

Your answers will remain confidential and are not linked to your name, address or other personal details. Only the organisation conducting the survey will have access to your name and address.

None of your personal details (those which identify you and your personal characteristics, for example your name, address, contact details or age) will be released by the organisation without first asking for your consent in writing.

Your answers will be analysed along with other respondents' answers and are reported in grouped format only so it is not possible to identify any individual respondent.

SCOPE

Social and Community Opportunities Profile: information sheet (on-line version)

You are invited to participate in a survey about your opportunities for social, leisure and community participation.

If you decide to take part, you will be asked to complete an online SCOPE survey. This will take around 20 minutes. We will then e-mail you to invite you to complete the same survey in 2 weeks' time.

The questionnaire has questions in it about your hobbies, your accommodation, your health, your money, your education, your family and friends and your work. The questionnaires are anonymous, but in order to test if there have been changes over time we need to make sure that we are comparing the same people's questionnaires.

We therefore ask you to put your initials and date of birth at the start of the questionnaire.

Your answers to the survey will be stored in a computer data base with an identification number only and no personal details. As we will only analyse your answers along with other participants' answers, it will not be possible to identify individual respondents.

You can ask any questions about this survey at any time. If you have questions about it after today you should contact Professor Peter Huxley or Sally Madge.

Your participation is completely voluntary; you can decide not to participate or to withdraw from the survey at any time.

SCOPE

Social and Community Opportunities Profile: information and consent form

You are invited to participate in a survey about your opportunities for social, leisure and community participation.

If you decide to take part, you will be asked to complete a SCOPE survey, with your support worker. This will take around 20 minutes. We will then ask you to complete the same survey in a few months' time, again with your support worker.

Your answers to the survey will be stored in a computer database with an identification number only and no personal details. As we will only analyse your answers along with other participants' answers, it will not be possible to identify individual respondents.

You can ask any questions about this survey at any time. If you have questions about it after today you should contact Professor Peter Huxley or Sally Madge.

Your participation is completely voluntary. If you decide not to participate or wish to withdraw from the survey at any time, this will have no effect on any services or treatment you are currently receiving.

Your signature below indicates that you have read this consent form, had an opportunity to ask any questions about your participation and voluntarily consent to participate.

Your name (please print): _____

Signature: _____

Date: _____

Appendix 8

Example of questions related to economic activity

Labour Force Survey 2006

What was your (main) job (in the week ending Sunday [date])?

– *Enter job title*

APPLIES TO RESPONDENTS CURRENTLY IN WORK OR
WHO HAVE WORKED IN THE LAST 8 YEARS

In paid work
Away from paid job in reference week
Unpaid work for own business in reference week
Unpaid work for relative's business in reference week
Working in public/private sector, voluntary task force, environmental task force, assisted self-employment
or work done in addition to that done on New Deal Scheme
or employer based work training, project-based work training, temporarily away from employer/project-based work training
Unemployed in reference week
Left last job within 8 years of reference week

General Household Survey 2006

Did you do any paid work in the 7 days ending Sunday the (date), either as an employee or as self-employed?

Yes 1
No 2

Ask if respondent is not in paid work and is a man aged 16–64 years or a woman aged 16–62 years.

Were you on a government scheme for employment training?

Yes 1
No 2

Ask if on a government scheme.

Last week were you …

With an employer, or on a project providing work experience or practical training? 1
or at a college or training centre? 2

Ask if not in paid work *and* not on a government scheme for employment training.

Did you have a job or business that you were away from?

Yes 1
No 2

Waiting to take up a new job/business already obtained 3

British Household Panel Survey 2006

D17. Show card 7. Please look at this card and tell me which best describes your current situation? *Code one only*

Self-employed	01	*Ask* D18
In paid employment (full or part-time)	02	
Unemployed	03	
Retired from paid work altogether	04	
On maternity leave	05	
Looking after family or home	06	
Full-time student/at school	07	Go to D19
Long-term sick or disabled	08	Ask D18
On a government training scheme	09	
Something else (please give details)	10	

Appendix 9

SCOPE long version

SOCIAL AND COMMUNITY OPPORTUNITIES PROFILE [SCOPE UKv1]

(For Measuring Aspects of Social Inclusion)

Instructions

SCOPE is intended to allow you to describe where you are up to in terms of your opportunities for social, leisure and community participation. There are no right or wrong answers.

All the questions used in SCOPE are drawn from UK national surveys of the general population. You are therefore being asked the same questions as thousands of people in the UK. The areas (called domains) included in SCOPE are those that are generally agreed to contribute to our quality of life. Our previous work not only shows that people generally find these questions easy to answer, but also welcome the chance to answer questions that are more about recovery than about illness. However, if you are finding it at all difficult or in some other way a problem, then please tell the person who is interviewing you.

Your answers will remain confidential and not linked to your name, address or other personal details. Only the organisation conducting the survey will have access to your name and address.

None of your personal details (those which identify you and your personal characteristics, for example your name, address, contact details or age) will be released by the organisation without first asking for your consent in writing.

For the purposes of the present survey your answers are stored in a computer data base with an identification number only and no personal details.

Your answers will be analysed along with other respondents' answers and are reported in grouped format only so it is not possible to identify any individual respondent.

The anonymous data is stored for a period and eventually destroyed. It is not made available to anyone other than the organisation conducting this survey, unless the project is funded by a Research Council, in which case it is a condition of funding that the data are stored securely at the UK Data Archive. In this case, others wishing to have access to the anonymised data are required to obtain the permission of the original researcher.

Thanks for completing SCOPE.

CONFIDENTIAL

Leisure and Participation Domain

1. Are there any community groups, clubs or organisations in your area?
Please tick one

Yes	
No	
Don't Know	

} - move to Q4

2. Do you personally have access to a group, club or organisation in your area?
Please tick one

Yes	
No	

- move to Q4

3. Are you personally currently involved in a group, club or organisation in your area?
Please tick one

Yes	
No	

4. Are you involved in or a member of any of the following?
INTERVIEWER: READ OUT
Please tick all that apply

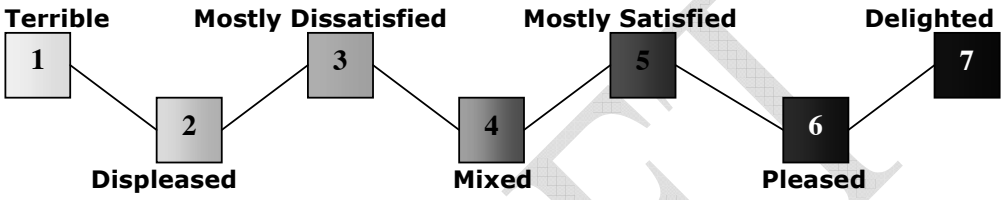
Citizenship	Involved/ member now	Have been involved/member but not now.	Have never been involved/ member
Political parties			
Trade unions (including student unions)			
Environmental groups			
Parent-teacher association or school association			
Tenants' or residents' group or neighbourhood watch			
Education, arts, music or singing group (including evening classes)			
Religious group or church organisation			
Charity, voluntary or community group			
Group for elderly or older people (eg lunch club)			
Youth group (eg scouts, guides, youth club)			
Women's institute or Townswomen's Guild or Women's group			
Social club (including working men's club, Rotary club)			
Sports club, gym, exercise or dance group			
Other group or organisation			

CONFIDENTIAL

5. What do you think about the general availability of these groups and activities in your area?
Please tick one

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

6. How do you feel about the range of opportunities to be involved with community groups, clubs or organizations that are available in your area?
Please circle one of the following options



7. In what ways (if any) would you like to change your opportunities to be involved with community groups, clubs or organizations that are available in your area?
INTERVIEWER: WRITE IN VERBATIM

Please state

8. Did you vote in the May 2005 UK general election?
Please tick one

Yes	
No	

CONFIDENTIAL

9. In the last 12 months, have you done any of the following things, UNPAID, for someone who is NOT a relative? This might be for a friend, neighbour or someone else.
If you have done any of the following, how often have you done this kind of thing…
INTERVIEWER: READ OUT AND PROMPT FOR FREQUENCY
(IF RESPONDENT CAN'T WORK OUT FREQUENCY CODE AS OTHER)

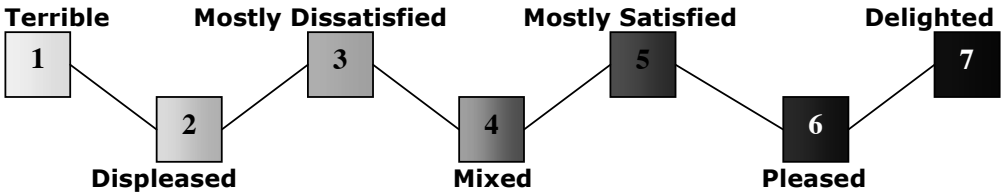
Voluntary Participation	No, not in the last year	At least once a week	At least once a month	Less often	Other
Keeping in touch with someone who has difficulty getting out and about (visiting in person, telephoning or e-mailing)					
Doing shopping, collecting pension or paying bills for someone					
Cooking, cleaning, laundry, gardening or other routine household jobs for someone					
Decorating, or doing any kind of home or car repairs for someone					
Baby sitting or caring for children					
Sitting with or providing personal care (e.g. washing, dressing) for someone who is sick or frail					
Looking after a property or a pet for someone who is away					
Giving advice to someone					
Writing letters or filling in forms in for someone					
Representing someone (for example in talking to a council or other official)					
Transporting or escorting someone (for example to a hospital, on an outing or a school trip)					
Anything else (specify)……					
No help given					

10. What do you think about the opportunities available in your area to undertake these kinds of activities?
Please tick one

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

CONFIDENTIAL

11. How do you feel about the range of opportunities for voluntary participation that are available?



12. In what ways (if any) would you like to change your opportunities for voluntary participation?
INTERVIEWER: WRITE IN VERBATIM

Please state

13. May I just check, have you ever used the internet at home or anywhere else?
Please tick one

Yes	
No	- move to Q15

14. Have you used the internet?
INTERVIEWER: READ OUT
Please tick one

	In the last year?	In the last 6 months?	In the last 3 months?
Yes			
No			

15. Do you, or any member of your household, have access to the internet from home?
Please tick one

Yes	
No	
No – respondent unable to answer	
Don't know if the household has access	

16. Are there any leisure, sports or entertainment facilities in your area?
Please tick one

Yes		
No		- move to Q19
Don't know		

CONFIDENTIAL

17. Do you have access to any leisure, sports or entertainment facilities in your area?
Please tick one

Yes	
No	

18. Do you currently use any leisure, sports or entertainment facilities in your area?
Please tick one

Yes	
No	

19. How often do you do the following activities?
INTERVIEWER: READ OUT AND PROBE FOR FREQUENCY
*Please tick **one** option for **each** activity*

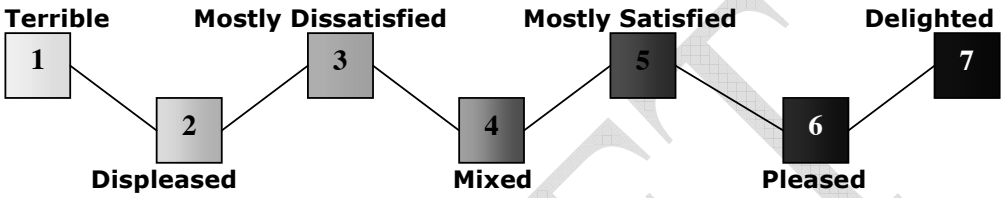
	Once a week or more	Once a month	Several times a year	Once a year or less	Never/almost never
Walk, swim or play sports					
Watch live sports					
Go to the cinema					
Go to theatre or concert					
Eat out					
Go out for a drink					
Work in the garden					
DIY/Car maintenance					
Attend evening classes					
Attend local groups					

CONFIDENTIAL

20. What do you think about the general availability of opportunities in your area to undertake these kind of activities?
Please tick one

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

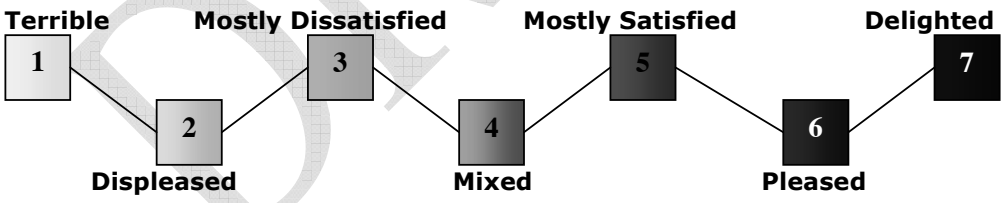
21. How do you feel about the range of leisure opportunities that are available to you?



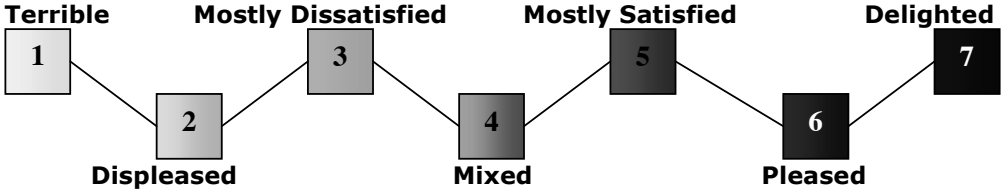
22. In what ways (if any) would you like to change your leisure opportunities?
INTERVIEWER: WRITE IN VERBATIM

Please state

23. Overall, how do you feel about your own leisure activities?



24. Overall, how do you feel about the opportunities that you have to participate in leisure activities?



CONFIDENTIAL

Housing and accommodation domain

INTERVIEWER READ OUT:
For the purpose of this survey a household is either: One person living alone OR a group of people (not necessarily related), living at the same address as their only or main residence with common housekeeping – that is, they normally share at least one meal per day or share the living accommodation (a living or sitting room).

25. Is there housing suitable for you and your household at a price that you can afford in the area that you want to live?
Please tick one

Yes	
No	
Don't know	

26. What type of accommodation does your household occupy?
INTERVIEWER: A semi-detached house is one of a **pair** which are joined together. A house at the end of a terrace must be coded as **terraced** even if there are only three houses in the terrace.
Houses which are joined only by a garage (link-detached) should be coded **detached**.
Please tick one

A *whole* house or bungalow that is:	
Detached	
Semi-detached	
Terraced (including end-terrace)	
A flat, maisonette, or apartment that is:	
In a purpose-built block of flats or tenement	
Part of converted or shared house (including bed-sits)	
In a commercial building (for example, in an office building, or hotel, or over a shop)	
Mobile or temporary structure:	
A caravan or other mobile or temporary structure	

27. Which of these housing tenure descriptions applies to you as an individual?
Please tick the one that applies to you as an individual.

Owned or on mortgage	
Shared ownership	
Rented	
Rent free	
Living with family/friends	
Other	

CONFIDENTIAL

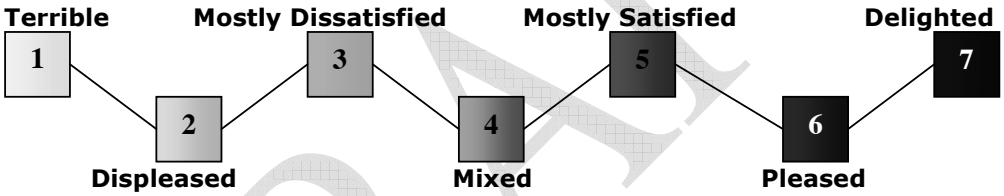
28. Which of these housing tenure descriptions apples to the household?
Please tick the one that applies to the household.

Owned or on mortgage	
Shared ownership	
Rented	
Rent free	
Other	

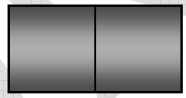
29. Is your household's accommodation self-contained?
This means that *all* the rooms, including the kitchen, bathroom and toilet are behind a door that only your household can use.
Please tick one

Yes, all the rooms are behind a door that only our household can use	
No	

30. How do you feel about your accommodation?



31. Roughly how many years have you lived in this area?
INTERVIEWER: Round to nearest year



32. Thinking about the local area in which you live; how strong is your preference to continue living in this area?
Please tick one

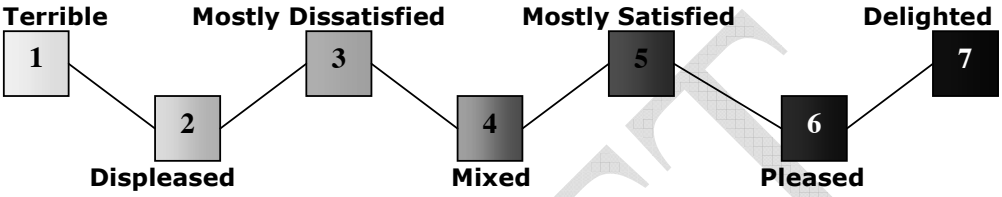
Strong preference to stay	
Moderate preference to stay	
Unsure / No strong preference to stay or leave	
Moderate preference to leave	
Strong preference to leave	

CONFIDENTIAL

33. What do you think about your opportunities to access suitable housing?
Please tick one

There are plenty of opportunities	
There are good opportunities for some types of property	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

34. How do you feel about the range of opportunities for accommodation that are available?



35. In what ways (if any) would you like to change your housing circumstances?
INTERVIEWER: WRITE IN VERBATIM

36. How many cars or vans are owned, or available for use, by one or more members of your household?
Include any company car or van if available for private use.
Please tick ONE

None	
One	
Two	
Three	
Four or more (please write in number)	

CONFIDENTIAL

Safety Domain

37. Do you ever walk alone in this area after dark?

Yes		- move to Q39
No/Rarely		- move to Q38, then move to Q40

38. What is your main reason for this?
INTERVIEWER: PROMPT IF NECESSARY

You fear being mugged or attacked	
You fear being harassed	
You fear your property will be vandalised or burgled	
You have other reasons related to policing (please specify)	
You have other reasons that are not related to policing (e.g. young children, sick relatives, you are content to stay in, you are ill/disabled etc.	

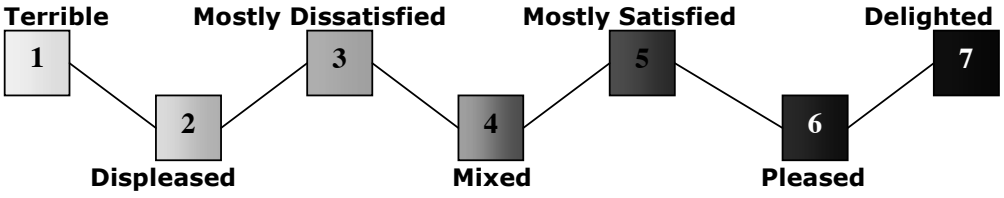
39. How safe do you feel walking alone in this area after dark?
INTERVIWER: READ OUT
Please tick one box

Very safe	
Fairly safe	
A bit unsafe	
Very unsafe	

40. Generally, how safe or unsafe do you feel living in your area?
INTERVIEWER: READ OUT
Please tick one

Very safe	
Fairly safe	
A bit unsafe	
Very unsafe	

41. How do you feel about the general safety of your area?



CONFIDENTIAL

42. During the past year have you been a victim of a crime or assault?

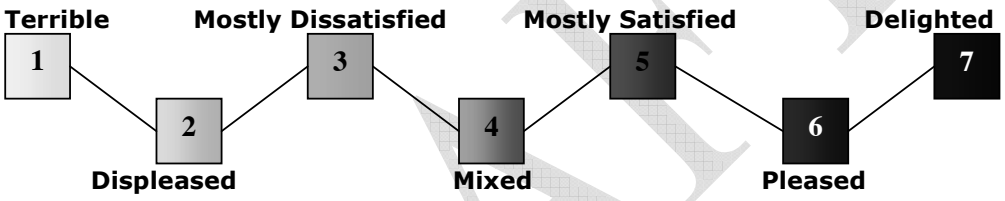
	Please tick one
Yes	
No	

- move to Q44

43. If you were a victim of assault, was the person who assaulted you known to you, or a stranger?

	Please tick one
Known	
Stranger	
Not applicable	

44. How do you feel about your personal safety?



CONFIDENTIAL

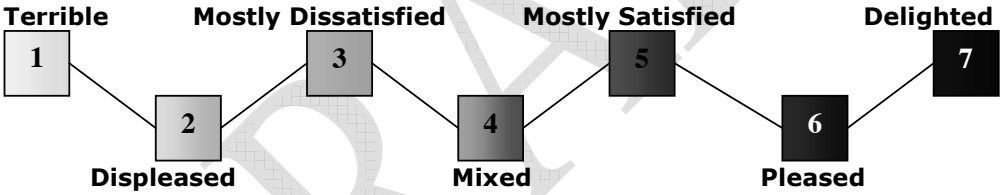
Work Domain

45. Which of these is currently most applicable to you? Please tick one box

Self employed		please go to question 46
In paid employment (f/t or p/t)		please go to question 46
Unemployed		please go to question 49
Retired from paid work altogether		please go to question 49
On maternity leave		please go to question 49
Looking after family or home		please go to question 49
Full time student/ at school		please go to question 49
Long term sick or disabled		please go to question 49
On a government training scheme		please go to question 49
Something else…….. (PLEASE GIVE DETAILS)		please go to question 49

For those in work

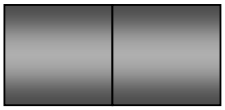
46. How do you feel about your current job?



47. Thinking about your main job, how many hours excluding overtime and meal breaks are you expected to work in a normal week?
Write the number of hours in this box

48. Thinking about the seven days ending on Sunday, how many hours did you actually work in your main job/ business?

Write the number of hours in this box

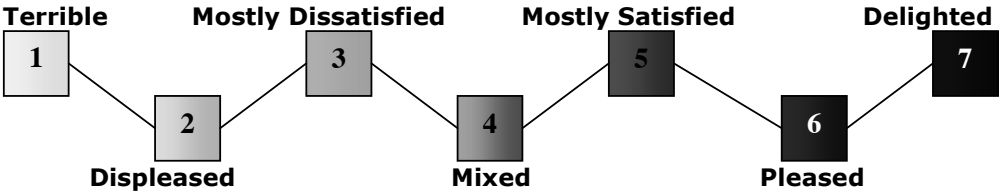


Please go to question 50

CONFIDENTIAL

For those not working

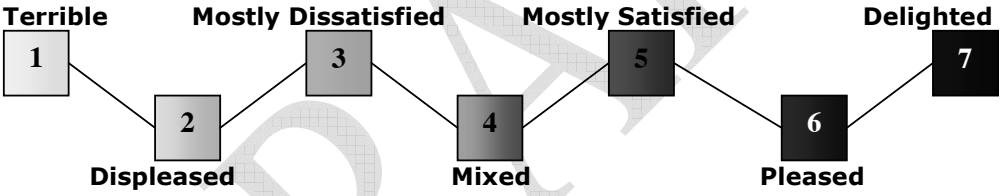
49. How do you feel about not working?



50. What do you think about your opportunities to find suitable work in this local area?
Please tick one

There are plenty of opportunities	
There are good opportunities in some types of work	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

51. How do you feel about the range of opportunities for work that are available to you?



52. In what ways (if any) would you like to change your opportunities for finding suitable work?
INTERVIEWER: WRITE IN VERBATIM

Please state

CONFIDENTIAL

Finance Domain

53. Can you please tell me which kinds of income you receive?
Please tick all that apply

Earnings from employment or self-employment	
Pension from a former employment	
State Pension	
Child Benefit	
Income Support	
Other State Benefits	
Tax Credits	
Interest from saving etc.	
Other kinds of regular allowance from outside the household	
Other sources e.g. rent	
No source of income	
Prefer not to say	

54. What is your personal annual income (before tax if applicable)?

Please State	£
Prefer not to say	

Note to interviewer, ask the open question, prompt with bands if respondent does not know

ANNUALLY	MONTHLY	WEEKLY	**PLEASE TICK**
No Income At All	No Income At All	No Income At All	
Less Than £7500	Less Than £625	£144.20	
Between £7500 and £13500	Between £625 and £1125	Between £144.20 and £260	
Between £13500 and £20500	Between £1125 and £1708	Between £260 and £394.20	
Between £20500 and £27500	Between £1708 and £2292	Between £394.20 and £529	
More Than £27500	More Than £2292	More Than £529	

55. In the last 12 months have you found yourself more than 2 months behind with the rent/mortgage?
Please tick ONE

Yes	
No	
Don't know	
Don't pay rent or a mortgage	

CONFIDENTIAL

56. How well would you say you are managing financially these days? Would you say you were
Please tick ONE

living comfortably;	
doing alright;	
just about getting by;	
finding it quite difficult;	
finding it very difficult;	
don't know	

57. How easy or difficult is it for you for you to meet the costs of running this home (by that I mean, the costs of your rent/ mortgage and other costs like heating and fuel)?
Please tick ONE

Very easy	
Fairly easy	
Neither easy nor difficult	
fairly difficult	
Very difficult	
don't know	

58. If you needed someone to lend you a small amount of money (e.g. for a local taxi fare), do you know anybody who would be able to do so within one week?
Please tick one

Yes		
No		- move to Q60

59. If yes, would this person be…
Please tick all that apply

Immediate Family	
Wider Family	
Friend	
Neighbour	
Colleague	
Acquaintance	

60. If you needed someone to lend you a large amount of money (e.g. for a deposit on a flat or a house, do you know anybody who would be able to do so within one week?
Please tick one

Yes		
No		- move to Q62

CONFIDENTIAL

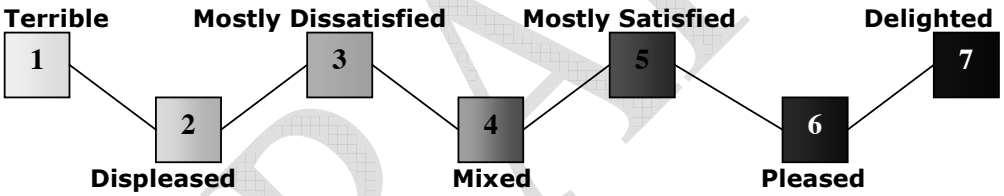
61. If yes, would this person be…
Please tick all that apply

Immediate Family	
Wider Family	
Friend	
Neighbour	
Colleague	
Acquaintance	

62. What do you think about your opportunities to increase your personal income?
Please tick one

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

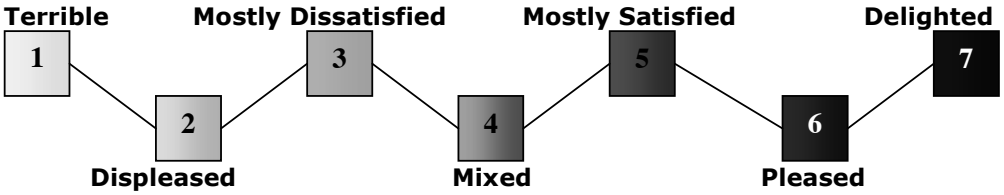
63. How do you feel about the range of opportunities to secure additional income that are available?



64. In what ways (if any) would you like to change your opportunities to secure additional income?
INTERVIEWER: WRITE IN VERBATIM

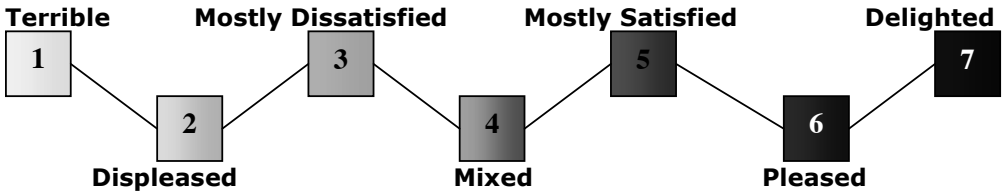
Please state

65. Overall, how do you feel about your personal financial situation?



CONFIDENTIAL

66. Overall, how do you feel about your household financial situation?



CONFIDENTIAL

Education Domain

67. I would now like to ask you about education and work-related training. Do you have any qualifications...
Please tick all that apply

	Yes	No
1 from school, college or university?		
2 connected with work?		
3 from government schemes?		
4 from a **Modern** Apprenticeship?		
5 from having been educated at home, when you were of school age?		
6 no qualifications?		
7 don't know		

68. What is the highest qualification you have obtained?
Please tick one

1 No Qualifications	
2 CSE/ GCSE/ 'O' Level	
3 School Certificate or Matric/ City and Guilds Ordinary Level	
4 'A' Levels/ City and Guilds Advanced Level	
5 Degrees/ Diplomas/ HNC/ HND	
6 Teaching qualification (excluding PGCE)	
7 Nursing or other medical qualification	
8 Other (please Specify)	

69. In the past 12 months were or are you enrolled on any full-time or part-time education course studying for any qualification even if you did not obtain them?
Please tick one

Yes		
No		- move to Q71

70. If yes, what qualifications were or are you studying for?
Please tick ALL that apply

1 CSE/ GCSE/ 'O' Level	
2 School Certificate or Matric/ City and Guilds Ordinary Level	
3 'A' Levels/ City and Guilds Advanced Level	
4 Degrees/ Diplomas/ HNC/ HND	
5 Teaching qualification (excluding PGCE)	
6 Nursing or other medical qualification	
7 Other (please Specify)	

CONFIDENTIAL

71. Over the past year, have you been involved at all in adult learning (such as taught courses, or evening classes, having instruction in sports, arts, crafts or practical skills; distance learning (on the internet, or using videos or DVDs)?
INTERVIEWER: PROBE FOR FREQUENCY IF APPLICABLE

	In the last year?	In the last 6 months?	In the last 3 months?
Yes			
No			

72. Over the past year, have you been involved at all in job-related training (conferences, seminars, workshops, or taught courses to do with your job)?
INTERVIEWER: PROBE FOR FREQUENCY IF APPLICABLE

	In the last year?	In the last 6 months?	In the last 3 months?
Yes			
No			

73. How likely is it that you will do any job-related learning, training, or education in the future? (Apart from your current learning)
INTERVIEWER: PROBE FOR FREQUENCY IF APPLICABLE

	Within the next 3 months	Within the next 6 months	In the next two years?
1. Very likely			
2. Fairly likely			
3. Not very likely			
4. Not at all likely			

74. How likely is it that you will do any **non** job-related learning, training, or education in the future? (Apart from your current learning)
INTERVIEWER: PROBE FOR FREQUENCY IF APPLICABLE

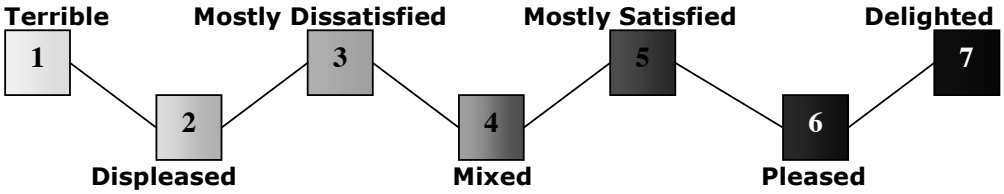
	Within the next 3 months	Within the next 6 months	In the next two years?
1. Very likely			
2. Fairly likely			
3. Not very likely			
4. Not at all likely			

75. What do you think about the general availability of the educational opportunities?
Please tick one

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

CONFIDENTIAL

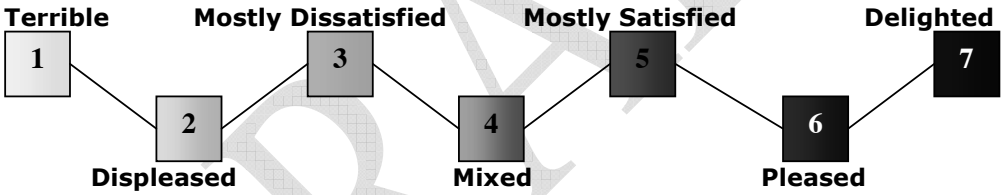
76. How do you feel about the range of educational opportunities that are available to you?



77. In what ways (if any) would you like to change your educational opportunities?
INTERVIEWER: WRITE IN VERBATIM

Please state

78. How do you feel about your own education and training?



CONFIDENTIAL

Health (self-reported) Domain

Please think back over the last 12 months about how your health has been.

79. How is your health in general? Would you say it was…

	In the last year?	In the last 6 months?	In the last 3 months?
Very good or excellent			
Good			
Fair			
Bad			
Very bad			
Don't know			

80. During the past 4 weeks, how much time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

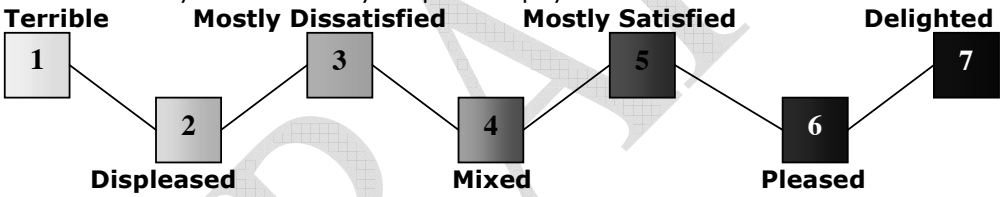
	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Cut down on the **amount of time** you spent on work or other activities	1	2	3	4	5
Accomplished less than you would like	1	2	3	4	5
Were limited in the **kind** of work or other activities	1	2	3	4	5
Had difficulty performing the work or other activities (e.g. it took more effort)	1	2	3	4	5

CONFIDENTIAL

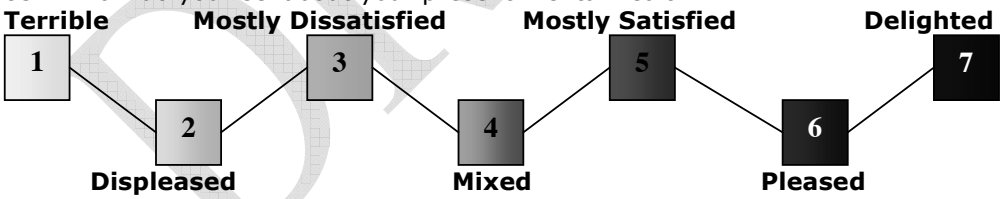
81. These questions are about how you feel and how things have been with you during the past 4 weeks.
For each question, please select the one answer that comes closest to the way you have been feeling.
How much of the time during the past 4 weeks…

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
Have you been a very nervous person?	1	2	3	4	5	6
Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
Have you felt calm and peaceful?	1	2	3	4	5	6
Have you felt down hearted and blue?	1	2	3	4	5	6
Have you been a happy person?	1	2	3	4	5	6

82. How do you feel about your present physical health?



83. How do you feel about your present mental health?



84. In the last 12 months, have you visited any of the following:
Please tick all that apply

GP or family doctor about your own physical health		- move to Q85
GP or family doctor about your own mental health		- move to Q86
A hospital or clinic as an out-patient/day patient for a physical health problem **(do not include A&E)**		- move to Q87
A hospital or clinic as an out-patient/day patient for a mental health problem **(do not include A&E)**		- move to Q88
A hospital or clinic as an in-patient for a physical health problem		- move to Q89
A hospital or clinic as an in-patient for a mental health problem		- move to Q90

CONFIDENTIAL

Level/frequency of contact with health services

85. How many times have you talked to, or visited a GP or family doctor about your own physical health? (Please do not include any visits to a hospital)

	In the last year?	In the last 6 months?	In the last 3 months?
One or two			
Three to five			
Six to ten			
More than 10,			
Don't know			

86. How many times have you talked to, or visited a GP or family doctor about your own mental health? (Please do not include any visits to a hospital)

	In the last year?	In the last 6 months?	In the last 3 months?
One or two			
Three to five			
Six to ten			
More than 10,			
Don't know			

87. Approximately how many times have you attended a hospital or clinic as an out patient or day patient (**do not include Accident and Emergency**) for a physical health problem?

	In the last year?	In the last 6 months?	In the last 3 months?
One or two			
Three to five			
Six to ten			
More than 10,			
Don't know			

88. Approximately how many times have you attended a hospital or clinic as an out patient or day patient (**do not include Accident and Emergency**) for a mental health problem?

	In the last year?	In the last 6 months?	In the last 3 months?
One or two			
Three to five			
Six to ten			
More than 10,			
Don't know			

CONFIDENTIAL

89. Approximately how many days have you spent in a hospital or clinic as an in-patient for a physical health problem?

	In the last year?	In the last 6 months?	In the last 3 months?
One or two			
Three to five			
Six to ten			
More than 10,			
Don't know			

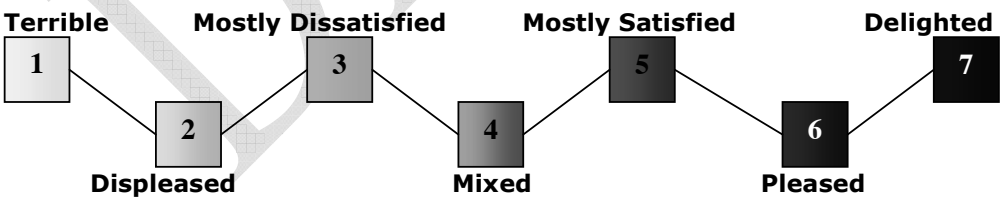
90. Approximately how many days have you spent in a hospital or clinic as an in-patient for a mental health problem?

	In the last year?	In the last 6 months?	In the last 3 months?
One or two			
Three to five			
Six to ten			
More than 10,			
Don't know			

91. What do you think about your opportunities to improve your health?
Please tick one

There are plenty of good opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

92. How do you feel about the range of opportunities to improve your health that are available?



93. In what ways (if any) would you like to change your opportunities to improve your health?
INTERVIEWER: WRITE IN VERBATIM

Please state

CONFIDENTIAL

Family and Social Domains

94. What is your marital status?

Single (never married)	
Married (first marriage)	
Re-married	
Separated (but still legally married)	
Divorced	
Widowed	

95. Are either or both of your parents alive?
Please tick ONE

Yes		
No		- move to Q97

96. How often are you in contact with your parents?
Please tick as applicable

	Face to face contact	Telephone Contact
Once a week or more		
Once a month		
Several times a year		
Once a year or less		
Never/almost never		

97. Do you have any adult children who are not living with you?
Please tick ONE

Yes		
No		- move to Q99

98. How often are you in contact with your adult children?
Please tick as applicable

	Face to face contact	Telephone Contact
Once a week or more		
Once a month		
Several times a year		
Once a year or less		
Never/almost never		

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99. Do you have any children (under 18) who are not living with you?
Please tick ONE

Yes		
No		- move to Q101

100. How often are you in contact with your children?
Please tick as applicable

	Face to face contact	Telephone Contact
Once a week or more		
Once a month		
Several times a year		
Once a year or less		
Never/almost never		

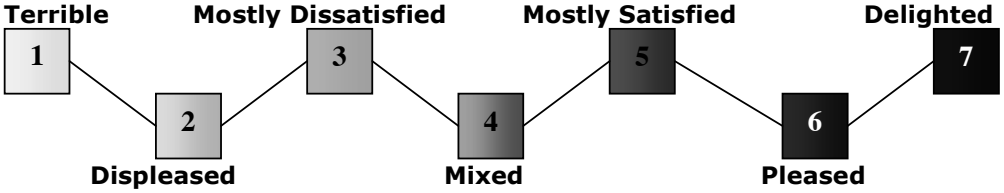
101. How often are you in contact with your other relatives?
Please tick as applicable

	Face to face contact	Telephone Contact
Once a week or more		
Once a month		
Several times a year		
Once a year or less		
Never/almost never		
Not applicable		

102. What do you think about the opportunities you have to contact your family?
Please tick one

There are plenty of good opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

103. How do you feel about the range of opportunities to contact your family?



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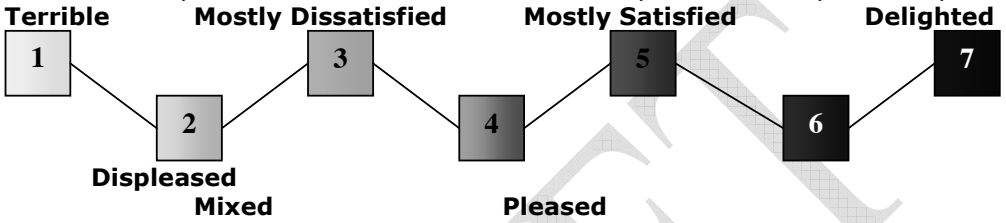
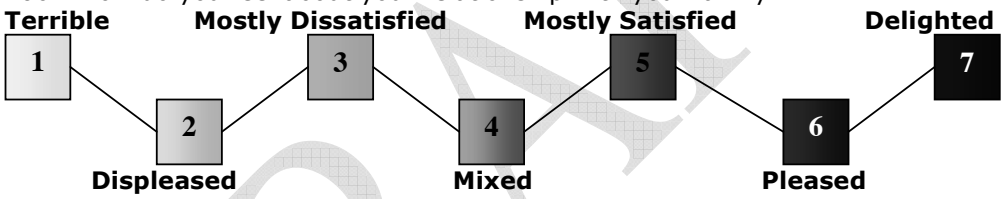
104. In what ways (if any) would you like to change your opportunities to contact your family?
INTERVIEWER: WRITE IN VERBATIM

Please state

105. How do you feel about the amount of contact you have with your family?



106. How do you feel about your relationship with your family?



Now I would like to ask you about how often you see people other than relatives socially.

107. How many people would you call a friend?

[ ] - if "0", move to Q109

108. Out of these friends, how many would you call a **close** friend?

[ ]

CONFIDENTIAL

109. How often do YOU have friends or neighbours round to your house?
INTERVIEWER: READ OUT
Please tick ONE

1. Every day	
2. Several times a week	
3. At least once a week	
4. At least once a fortnight	
5. At least once a month	
6. Less than once a month	
7. Never	

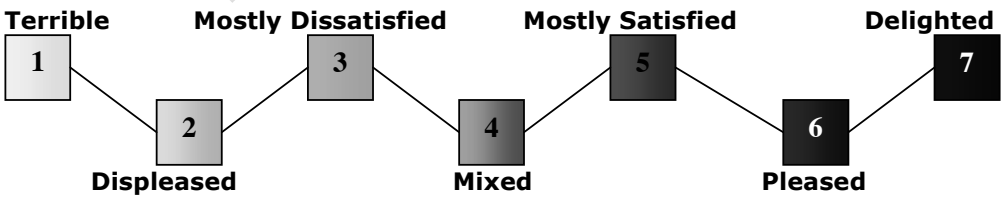
110. And how often do you go round to other people's houses? That is friends or neighbours.
INTERVIEWER: READ OUT
Please tick ONE

1. Every day	
2. Several times a week	
3. At least once a week	
4. At least once a fortnight	
5. At least once a month	
6. Less than once a month	
7. Never	

111. And how often do you go out socially?
INTERVIEWER: READ OUT
Please tick ONE

1. Every day	
2. Several times a week	
3. At least once a week	
4. At least once a fortnight	
5. At least once a month	
6. Less than once a month	
7. Never	

112. How do you feel about the relationships you have with your friends?



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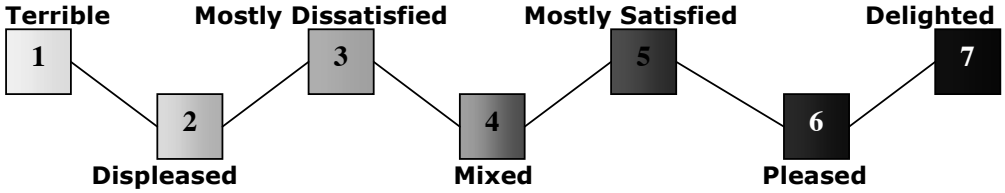
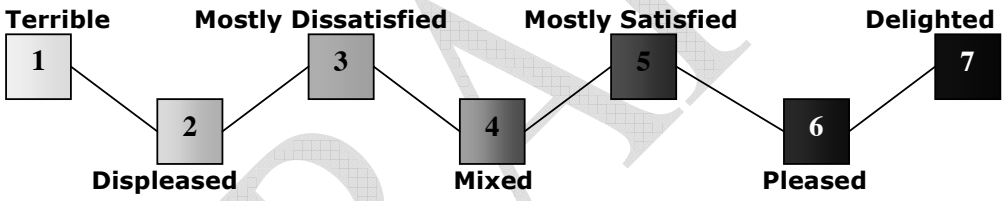
113. How do you feel about your opportunities for making new friends?



114. What do you think about the opportunities to meet people in your area?
Please tick one

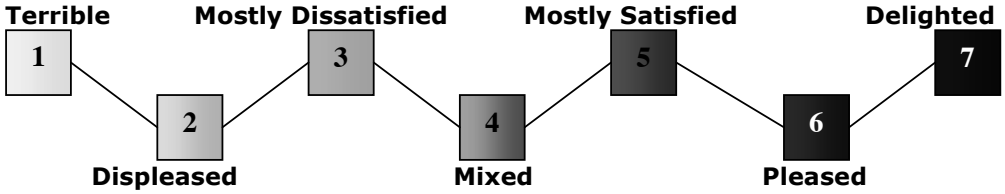
There are plenty of good opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

115. How do you feel about the range of opportunities that are available to meet people?



116. In what ways (if any) would you like change your opportunities for meeting people?
INTERVIEWER: WRITE IN VERBATIM

117. Overall, how do you feel about the extent to which you are included in society?



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Profile Section

118. Gender (DO NOT ASK)

Male	
Female	

119. What age were you on your last birthday?

120. What is your ethnic group?

Asian or Asian British	
Indian	
Pakistani	
Bangladeshi	
Any other Asian background	
Black or Black British	
Caribbean	
African	
Any other Black background	
Chinese	
Mixed	
White and Black Caribbean	
White and Black African	
White and Asian	
Any other mixed background	
White	
British	
Irish	
Any other White background	
Other ethnic group	

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121. Do you have any long-term illness, health problems or disability which limits your daily activities or the work you can do?
Include problems which are due to old age.

Yes	
No	

THANKS FOR COMPLETING SCOPE

Appendix 10

Exploratory factor analysis of SCOPE domains

Factor analysis: leisure and participation domain

Question no.	Variable name
1	A01
2	A02
3	A03
4	Q4NowPastTotal
5	A05
6	A06
7	A07recoded
8	A08
9	Q9total
10	A10
11	A11
12	A12recoded
13	A13
16	A16
17	A17
18	A18
19	Q19total
20	A20
21	A21
22	A22recoded
23	A23
24	A24

Correlations of 0.3 present in correlation matrix. KMO is 0.766, Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate. Using Kaiser's criterion, only factors with an eigenvalue of ≥ 1 are retained. There are seven factors representing 62.046% of the total variance.

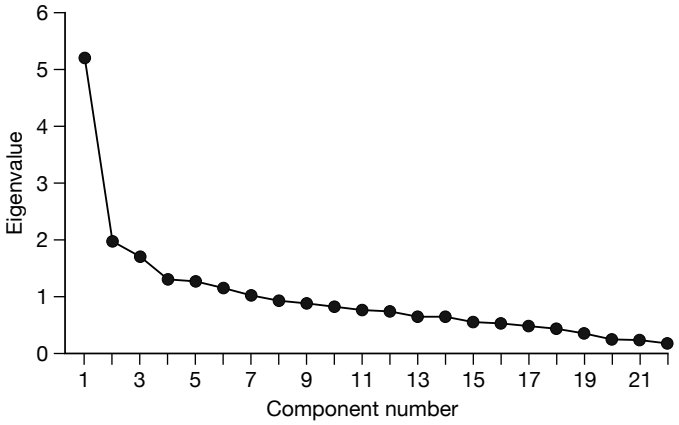


FIGURE 9 Scree plot – leisure and participation.

Rotated Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
A06: How do you feel about the range of opportunities to be involved with community groups, clubs or organisations that are available in your area?	–0.797						
A11: How do you feel about the range of opportunities for voluntary participation that are available?	–0.787					0.302	
A05: What do you think about the general availability of these groups and activities in your area?	0.768						
A10: What do you think about the opportunities available in your area to undertake these kinds of activities?	0.768						
A21: How do you feel about the range of leisure opportunities that are available to you?	–0.652		0.352				
A20: What do you think about the general availability of opportunities in your area to undertake these kinds of activities?	0.629	0.365					
A13: May I just check, have you ever used the internet at home or anywhere else?		0.741					
A16: Are there any leisure, sports or entertainment facilities in your area?		0.700					
Total Question 19		–0.537		–0.438			
A23: Overall, how do you feel about your own leisure activities?			0.810				
A24: Overall, how do you feel about the opportunities that you have to participate in leisure activities?	–0.364		0.790				
A17: Do you have access to any leisure, sports or entertainment facilities in your area?				0.746			
A18: Do you currently use any leisure, sports or entertainment facilities in your area?				0.727			
A02: Do you personally have access to a group, club or organisation in your area?				0.313			
A22: In what ways (if any) would you like to change your leisure opportunities?					0.730		
A12: In what ways (if any) would you like to change your opportunities for voluntary participation?					0.684		

	Component						
	1	2	3	4	5	6	7
A07: In what ways (if any) would you like to change your opportunities to be involved with community groups, clubs or organisations that are available in your area?					0.661		
A03: Are you personally currently involved in a group, club or organisation in your area?						–0.726	
Total of question 9 recodes						0.716	
Total of Citizenship membership now or in past						0.506	–0.399
A08: Did you vote in the May 2005 UK General Election?							0.747
A01: Are there any community groups, clubs or organisations in your area?							0.727
Extraction method: PCA							
Rotation method: Varimax with Kaiser normalisation							

a Rotation converged in six iterations.

Factor analysis: housing and accommodation domain

Question no.	Variable name
25	Is there housing in the area?
26	What time of accommodation does your household have?
27	What is your housing tenure?
30	How do you feel about your accommodation?
31	How many years have you lived in this area?
32	How strong is your preference to live in this area?
33	What do you think about your opportunities to access housing?
34	How do you feel about your opportunities to access housing?
35	In what ways would you change your housing circumstances?
36	How many vehicles?

Correlations of 0.3 present in correlation matrix, KMO value was 0.673 and Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate.

Using Kaiser's criterion, only factors with an eigenvalue of ≥ 1 are retained. There are three factors representing 61.41% of the total variance.

The Scree plot shows a break after the third component.

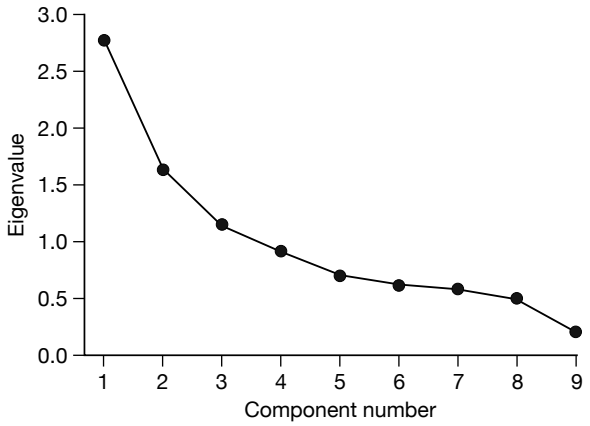


FIGURE 10 Scree plot–housing and accomodation.

Factors rotated using Varimax rotation.

Rotated Component Matrix[a]

	Component		
	1	2	3
B33: What do you think about your opportunities to access suitable housing?	0.882		
B34: How do you feel about the range of opportunities for accommodation that are available?	–0.852		
B25: Is there housing suitable for you and your household at a price that you can afford in the area that you want to live?	0.711		
B30: How do you feel about your accommodation?	–0.512		0.388
B26: What type of accommodation does your household occupy?		0.801	
B36: How many cars or vans are owned, or available for use, by one or more members of your household? Include any company car or van if available for private use.		–0.716	
B27: Which of these housing tenure descriptions applies to you as an individual?		0.629	
B31: Roughly how many years have you lived in this area?			0.848
B32: Thinking about the local area in which you live; how strong is your preference to continue living in this area?	0.336		–0.655
Extraction method: PCA			
Rotation method: Varimax with Kaiser normalisation			

a Rotation converged in four iterations.

Factor analysis: safety domain

Question no.	Variable Name
37	Do you ever walk in this area after dark?
39	How safe do you feel walking after dark?
40	How safe or unsafe do you feel living in your area?
41	How do you feel about general safety of your area?
42	Have you been a victim of crime or assault
44	How do you feel about your personal safety?

Correlations of 0.3 present in correlation matrix, KMO value was 0.752 and Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate.

Using Kaiser's criterion only factors with an eigenvalue of ≥ 1 are retained. There are two factors representing 64.26% of the total variance.

The Scree plot shows a break after the second component.

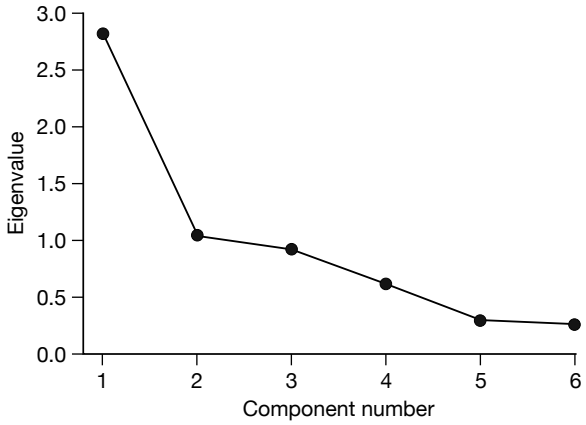


FIGURE 11 Scree plot – safety.

Factors rotated using Varimax rotation.

Rotated Component Matrix[a]

	Component	
	1	2
C40: Generally, how safe or unsafe do you feel living in your area?	0.810	–0.344
C41: How do you feel about the general safety of your area?	–0.809	
C44: How do you feel about your personal safety?	–0.791	0.340
C37: Do you ever walk alone in this area after dark?	0.705	0.525
C42: During the past year have you been a victim of a crime or assault?		0.628
C39: How safe do you feel walking alone in this area after dark?		–0.584
Extraction method: PCA		
Rotation method: Varimax with Kaiser normalisation		

a Rotation converged in three iterations.

Factor analysis: work domain

This domain was spilt into employed and unemployed people as the questions were routed on that basis. Given that a high percentage of the unemployed group were retired, the factor analysis was done on the unemployed group as a whole, then with retired people.

Employed

Question no.	Variable name
46	How do you feel about your current job?
47	How many hours are you expected to work?
48	How many hours did you work?
50	What do you think of opportunities to find work?
51	How do you feel about the range of opportunities to find work?
52	How would you change your opportunities?

Correlations of 0.3 present in correlation matrix, KMO value was 0.58 (rounded up to 0.6) and Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate.

The Scree plot shows a clear break after the third component however using Kaiser's criterion, only factors with an eigenvalue of ≥ 1 are retained. There are two factors representing 65.43% of the total variance.

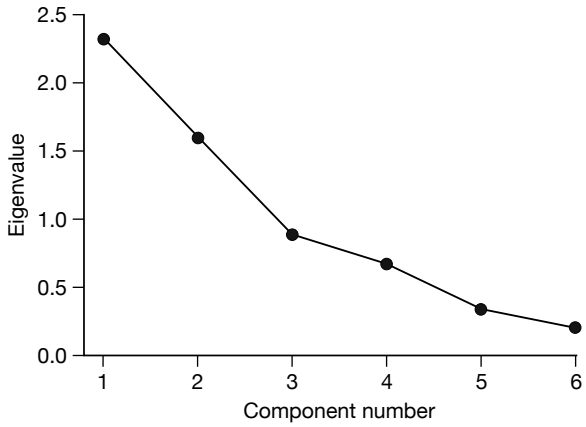


FIGURE 12 Scree plot – work.

Factors rotated using Varimax rotation.

Rotated Component Matrix[a]

	Component	
	1	2
D51: How do you feel about the range of opportunities for work that are available to you?	0.892	
D50: What do you think about your opportunities to find suitable work in this local area?	–0.853	
D52: In what ways (if any) would you like to change your opportunities for finding suitable work?	–0.441	
D46: How do you feel about your current job?	0.430	0.307
D48: Thinking about the 7 days ending on Sunday, how many hours did you actually work in your main job/ business?		0.900
D47: Thinking about your main job, how many hours excluding overtime and meal breaks are you expected to work in a normal week?		0.877
Extraction method: PCA		
Rotation method: Varimax with Kaiser normalisation		

a Rotation converged in three iterations.

Unemployed

Question no.	Variable name
49	How do you feel about not working?
50	What do you think of opportunities to find work?
51	How do you feel about the range of opportunities to find work?
52	How would you change your opportunities?

Correlations of 0.3 present in correlation matrix, KMO value was 0.547 (rounded up to 0.6) and Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate.

Using Kaiser's criterion, only factors with an eigenvalue of ≥ 1 are retained. There are two factors representing 65.43% of the total variance.

Factors rotated using Varimax rotation.

Rotated Component Matrix[a]

	Component	
	1	2
D50: What do you think about your opportunities to find suitable work in this local area?	–0.901	
D51: How do you feel about the range of opportunities for work that are available to you?	0.840	0.349
D52: In what ways (if any) would you like to change your opportunities for finding suitable work?		–0.870
D49: How do you feel about not working?	0.369	0.751
Extraction method: PCA		
Rotation method: Varimax with Kaiser normalisation		

a Rotation converged in three iterations.

The KMO value for the retired group was 0.467. Tabachnick and Fidell[205] say the score must be ≥ 0.6 for a good factor analysis.

Factor analysis: finance domain

Question no.	Variable name
53	What is your main source of income?
54	What is your personal income?
55	Have you been 2 months behind with rent/mortgage?
56	How well are you managing financially?
57	How easy is it to meet costs of running home?
58	If you needed someone to lend small money in 1 week?
60	If you needed someone to lend large money in 1 week?
62	What do you think about opportunities to increase personal income?
63	How do you feel about opportunities to secure personal income?
64	In what ways would you change your opportunities to secure income?
65	Overall, how do you feel about your personal finances?
66	Overall, how do you feel about household finances?

Correlations of 0.3 present in correlation matrix, KMO value was 0.776 and Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate.

Using Kaiser's criterion only factors with an eigenvalue of ≥ 1 are retained. There are five factors representing 72.8% of the total variance.

The Scree plot shows a clear break after the first component.

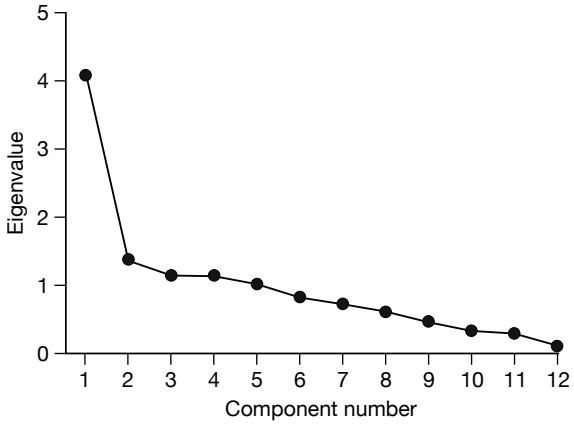


FIGURE 13 Scree plot – finance.

Factors rotated using Varimax rotation.

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
E65: Overall, how do you feel about your personal financial situation?	0.912				
E66: Overall, how do you feel about your household financial situation?	0.902				
E57: How easy or difficult is it for you for you to meet the costs of running this home (by that I mean, the costs of your rent/mortgage and other costs like heating and fuel)?	–0.798				
E56: How well would you say you are managing financially these days? Would you say you were …	–0.797				
E62: What do you think about your opportunities to increase your personal income?		0.895			
E63: How do you feel about the range of opportunities to secure additional income that are available?	0.300	–0.839			
E60: If you needed someone to lend you a large amount of money (e.g. for a deposit on a flat or a house), do you know anybody who would be able to do so within 1 week?			0.846		
E58: If you needed someone to lend you a small amount of money (e.g. for a local taxi fare), do you know anybody who would be able to do so within 1 week?			0.691		
E53: Main source of income?				0.778	
E64: In what ways (if any) would you like to change your opportunities to secure additional income?				0.675	
E55: In the last 12 months have you found yourself more than 2 months behind with the rent/mortgage?					0.866
E54b: What is your personal annual income (before tax if applicable)?	0.373				–0.636
Extraction method: PCA					
Rotation method: Varimax with Kaiser normalisation					

a Rotation converged in five iterations.

Factor analysis: education domain

Question no.	Variable name
68 (recoded)	What is the highest qualification you have obtained?
69	In the past 12 months have you been enrolled on any education course?
71 (recoded)	Over the past year have been involved in adult learning?
72 (recoded)	Over the past year have you been involved in job-related training?
75	What do you think about the general availability of educational opportunities?
76	How do you feel about the range of educational opportunities?
77	In what ways would you change tour educational opportunities?
78	How do you feel about your own education?

Correlations of 0.3 present in correlation matrix, KMO value was 0.589 (rounded up to 0.6) and Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate.

Using Kaiser's criterion only factors with an eigenvalue of ≥ 1 are retained. There are three factors representing 58.19% of the total variance.

The Scree plot shows a clear break after the first component.

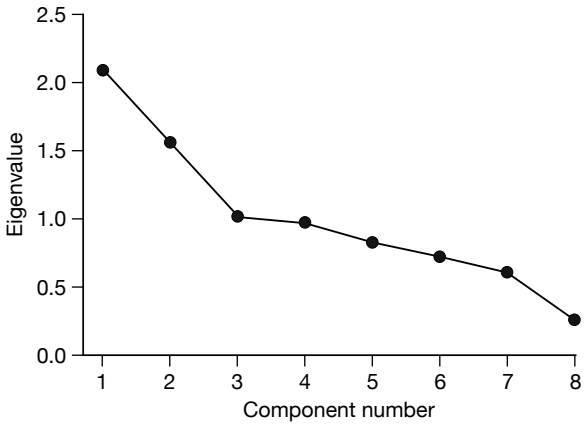


FIGURE 14 Scree plot – education.

Factors rotated using Varimax rotation.

Rotated Component Matrix[a]

	Component		
	1	2	3
F76: How do you feel about the range of educational opportunities that are available to you?	0.879		
F75: What do you think about the general availability of educational opportunities?	–0.871		
F78: How do you feel about your own education and training?	0.639		
F69: In the past 12 months were or are you enrolled on any full-time or part-time education course studying for any qualification even if you did not obtain them?		–0.761	
Adult learning in the last year		0.758	
Job-related learning in the last year		0.503	0.463
F68 recoded: What is the highest qualification you have obtained?			0.823
F77: In what ways (if any) would you like to change your educational opportunities?			0.407
Extraction method: PCA			
Rotation method: Varimax with Kaiser normalisation			

a Rotation converged in four iterations.

Factor analysis: health domain

Question no.	Variable name
79	Health in the last year
80	Total mental health score
81	Total physical health score
82	How do you feel about your physical health?
83	How do you feel about your mental Health?
84–90 recoded	Frequency of contact with GP for physical health
	Frequency of contact with GP for mental health
	Frequency of contact with Hospital for physical health
	Frequency of contact with Hospital for mental health
91	What do you think about your opportunities to improve your health?
92	How do you feel about the range of opportunities to improve your health?
93	In what ways would you like to change your opportunities to improve your health?

Correlations of 0.3 present in correlation matrix, KMO value was 0.812 and Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate.

Using Kaiser's criterion only factors with an eigenvalue of ≥ 1 are retained. There are four factors representing 63.55% of the total variance.

The Scree plot shows a break after two factors.

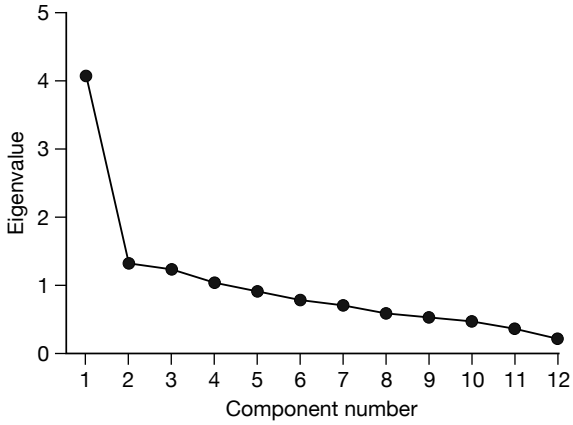


FIGURE 15 Scree plot – health.

Factors rotated using Varimax rotation.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
G92: How do you feel about the range of opportunities to improve your health that are available?	0.788			
G91: What do you think about your opportunities to improve your health?	–0.786			
G82: How do you feel about your present physical health?	0.698		–0.334	
G79: How is your health in general? Would you say it was (In the last year?)	–0.677	0.405	0.332	
Total physical health score	0.597	–0.353		
G93: In what ways (if any) would you like to change your opportunities to improve your health?	–0.564			
Frequency of visits to hospital for physical health in 12 months		0.867		
Frequency of visits to GP for physical health in 12 months		0.738		
Frequency of visits to GP for mental health in 12 months			0.688	
G83: How do you feel about your present mental health?	0.348		–0.682	
Total mental health scores using reversed items	–0.387		0.663	
Frequency of visits to hospital for mental health in 12 months				0.942
Extraction method: PCA				
Rotation method: Varimax with Kaiser normalisation				

a Rotation converged in five iterations.

Factor analysis: family and social domain

Question no.	Variable name
94	What is you marital status?
95	Are either or both your parents still alive?
96 (recoded)	How often are you in contact with your parents? (mean)
101 (recoded)	How often are you in contact with your other relatives?
102	What do you think about your opportunities to contact family?
103	How do you feel about the range of opportunities?
104	In what ways would you change your opportunities?
105	How do you feel about the amount of contact?
106	How do you feel about your relationship with your family?
107	How many people would you call a friend?
108	Of these how many would you call a close friend?
109	How often do *you* have friends or neighbours over?
110	How often do you go round others houses?
111	How often do you go out socially?
112	How do you feel about the relationships you have with your friends?
113	How do you feel about your opportunities for making new friends?
114	What do you think about opportunities to meet people in your area?
115	How do you feel about the range of opportunities to meet people in your area?
116	In what ways would you like to change your opportunities?
117	Overall how do you feel about the extent to which you are included in society?

Correlations of 0.3 present in correlation matrix, KMO value was 0.784 (rounded up to 0.8) and Bartlett's test of sphericity = 0.00. Factor analysis is therefore appropriate.

Using Kaiser's criterion only factors with an eigenvalue of ≥ 1 are retained. There are six factors representing 64.9% of the total variance.

The Scree plot shows a break after three factors.

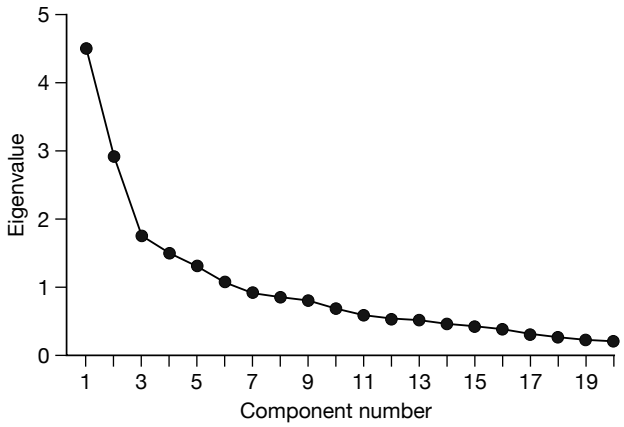


FIGURE 16 Scree plot – family and social.

Factors rotated using Varimax rotation.

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
H103: How do you feel about the range of opportunities to contact your family?	0.877					
H105: How do you feel about the amount of contact you have with your family?	0.854					
H106: How do you feel about your relationship with your family?	0.846					
H102: What do you think about the opportunities you have to contact your family?	–0.794					
Mean contact with other relatives	0.418				–0.370	
H115: How do you feel about the range of opportunities that are available to meet people?		0.888				
H114: What do you think about the opportunities to meet people in your area?		–0.801				
H113: How do you feel about your opportunities for making new friends?		0.799				
H117: Overall, how do you feel about the extent to which you are included in society?		0.622				
H111: And how often do you go out socially?		–0.398	0.328			
H109: How often do *you* have friends or neighbours round to your house?			0.871			
H110: And how often do you go round to other people's houses? That is friends or neighbours.			0.867			
H107: How many people would you call a friend?				0.865		
H108: Out of these friends, how many would you call a close friend?				0.845		
H94: What is your marital status?					0.791	
H95: Are either or both of your parents alive?					0.761	
Mean contact with parents						0.785
H104: In what ways (if any) would you like to change your opportunities to contact your family?	–0.463					–0.589
H116: In what ways (if any) would you like change your opportunities for meeting people?		–0.426				–0.457
H112: How do you feel about the relationships you have with your friends?						0.343
Extraction method: PCA						
Rotation method: Varimax with Kaiser normalisation						

a Rotation converged in six iterations.

Appendix 11

SCOPE short version

SCOPE

SOCIAL AND COMMUNITY OPPORTUNITIES PROFILE

Thank you for completing this questionnaire. It will be accompanied by an information sheet and consent form for you to sign.

Swansea University
Prifysgol Abertawe

This project was funded by the National Institute for Health Research Health Technology Assessment (HTA) Programme (project number 06/91/16)

www.hta.ac.uk

Your Leisure Time…

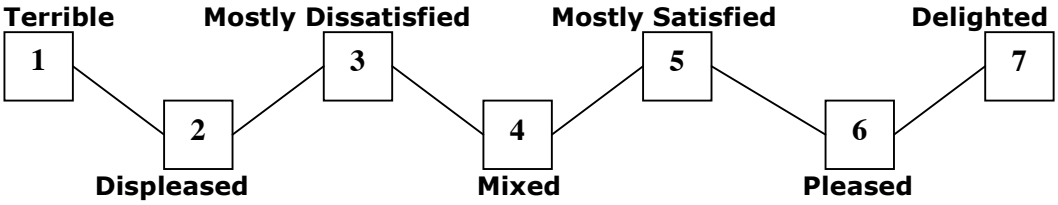
1. Are there any leisure, sports or entertainment facilities in your area? *(Please tick one)*

Yes	No		Don't Know	
☐	☐	please move to Q3	☐	please move to Q3

2. Do you currently use any leisure, sports or entertainment facilities in your area? *(Please tick one)*

Yes	No
☐	☐

3. How do you feel about the opportunities that you have to participate in leisure activities? *(Please circle one)*



4. In what ways (if any) would you like to change your leisure opportunities?

Please state

5. What do you think about the general availability of community groups, clubs and organisations in your area? *(Please tick one)*

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

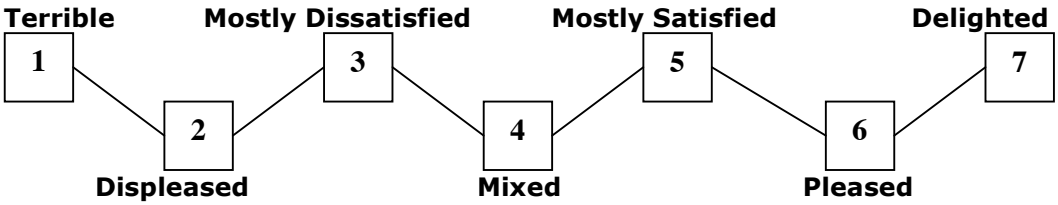
6. In the last 12 months, have you given UNPAID help to someone who is NOT a relative? Examples of unpaid help include; shopping, running errands, child care, house/ pet sitting *(Please tick one)*

Yes	No
☐	☐

7. Did you vote in the May 2005 general election? *(Please tick one)*

Yes ☐ No ☐

8. How do you feel about the range of opportunities to be involved with community groups, clubs or organizations that are available in your area? *(Please circle one)*



Your Housing and Accommodation…

For the purpose of this survey a household is either: One person living alone OR a group of people (not necessarily related) living at the same address as their only or main residence with common housekeeping – that is, they normally share at least one meal per day or share the living accommodation (a living or sitting room).

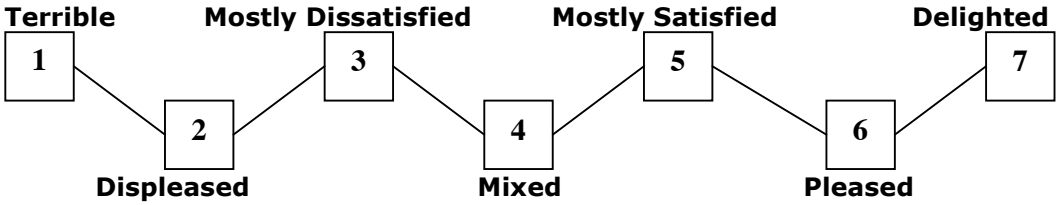
9. What type of accommodation does your household occupy? *(Please tick one)*

A *whole* house or bungalow that is:	
Detached	
Semi-detached	
Terraced (including end-terrace)	
A flat, maisonette, or apartment that is:	
In a purpose-built block of flats or tenement	
Part of converted or shared house (including bed-sits)	
In a commercial building (for example, in an office building, or hotel, or over a shop)	
Mobile or temporary structure:	
A caravan or other mobile or temporary structure	

10. What do you think about your opportunities to access suitable accommodation? *(Please tick one)*

There are plenty of opportunities	
There are good opportunities for some types of property	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

11. How do you feel about the range of opportunities for suitable accommodation that are available? *(Please circle one)*



12. How many cars or vans are owned, or available for use, by one or more members of your household? (Include any company car or van if available for private use.) *(Please tick one)*

None	
One	
Two	
Three or more (please state)	

13. Roughly how many years have you lived in your area?

Your Work…

14. What do you think about the opportunity to acquire suitable work in this local area? *(Please tick one)*

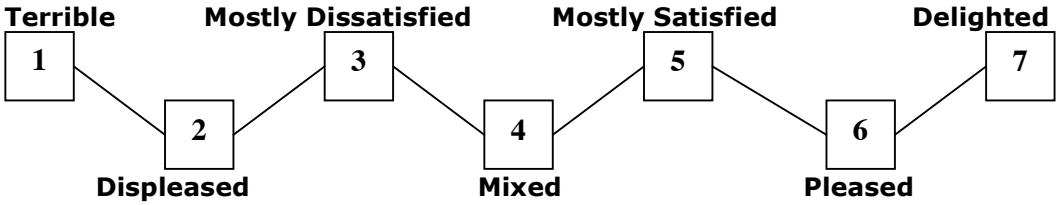
There are plenty of opportunities	
There are good opportunities in some types of work	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

15. Which of these is currently **most** applicable to you? *(Please tick one)*

Self employed		} please go to question 16
In paid employment (f/t or p/t)		}
Unemployed		}
Retired from paid work altogether		}
On maternity leave		}
Looking after family or home		} please go to question 18
Full time student/ at school		}
Long term sick or disabled		}
On a government training scheme		}
Something else (*Please give details)*		

For those in work

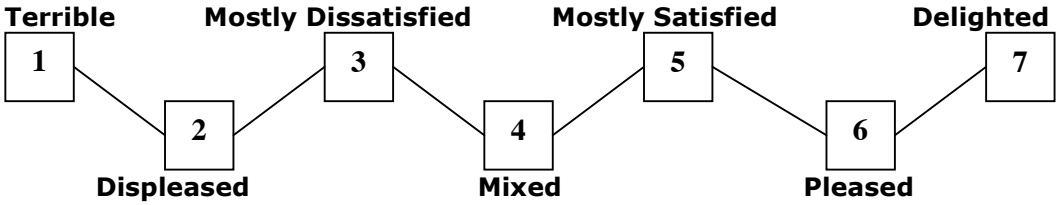
16. How do you feel about your opportunities to find suitable work? *(Please circle one)*



17. Thinking about the seven days ending on Sunday how many hours did you actually work in your main job/business? *Write the number of hours in this box, and then go to Q19*

For those not working

18. How do you feel about your opportunities to find suitable work? *(Please circle one)*



Your Finances…

19. Can you tell me what your main source of income is? *(Please tick one)*

No source of income	
Earned income e.g. from employment, investment, property rental	
State Pension or Pension from a former employment	
State Benefits	
Other Source of Income (please state)	
Prefer not to say	

20. What is your personal annual income (before tax if applicable)?

ANNUALLY	**MONTHLY**	**WEEKLY**	**PLEASE TICK**
No Income At All	No Income At All	No Income At All	
Less Than £7500	Less Than £625	£144.20	
Between £7500 and £13500	Between £625 and £1125	Between £144.20 and £260	
Between £13500 and £20500	Between £1125 and £1708	Between £260 and £394.20	
Between £20500 and £27500	Between £1708 and £2292	Between £394.20 and £529	
More Than £27500	More Than £2292	More Than £529	
Prefer not to say	Prefer not to say	Prefer not to say	

21. What do you think about your opportunities to increase your personal income? *(Please tick one)*

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

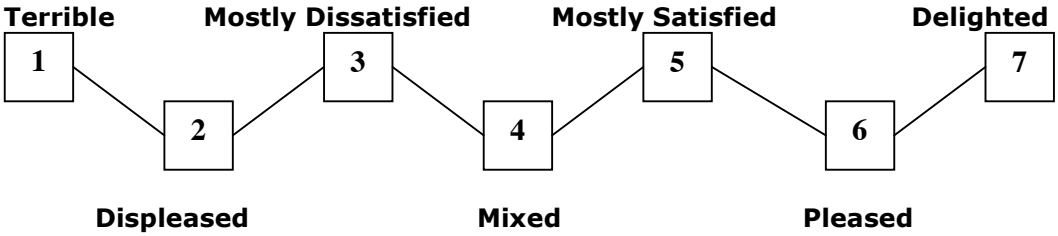
22. If you needed someone to lend you a small amount of money (e.g. for a local taxi fare), do you know anybody who would be able to do so within one week? *(Please tick one)*

Yes ☐ No ☐ move to Q24

23. If yes, who is this person most likely to be… *(Please tick one)*

Immediate Family	
Wider Family	
Friend	
Neighbour	
Colleague	
Acquaintance	

24. Overall, how do you feel about the range of opportunities to secure additional income that are available? *(Please circle one)*



Your Safety…

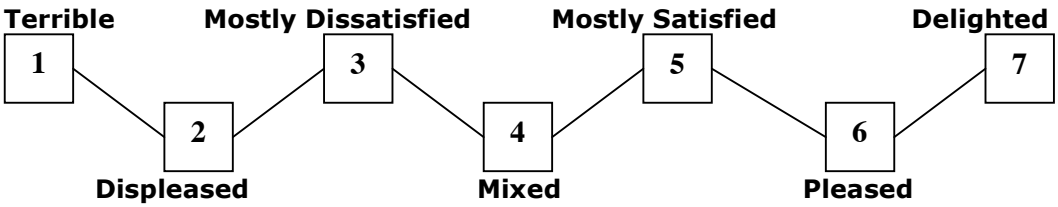
25. Generally, how safe or unsafe do you feel living in your area? *(Please tick one)*

Very safe	
Fairly safe	
A bit unsafe	
Very unsafe	

26. During the past year have you been a victim of a crime or assault? *(Please tick one)*

Yes ☐ No ☐

27. How do you feel about your opportunities to live safely in your area? *(Please circle one)*



Your Education…

28. What is the highest qualification you have obtained? *(Please tick one)*

No Qualifications	
CSE/ GCSE/ 'O' Level	
School Certificate or Matric/ City and Guilds Ordinary Level	
'A' Levels/ City and Guilds Advanced Level	
Degrees/ Diplomas/ HNC/ HND	
Teaching qualification (excluding PGCE)	
Nursing or other medical qualification	
Other (please Specify)	

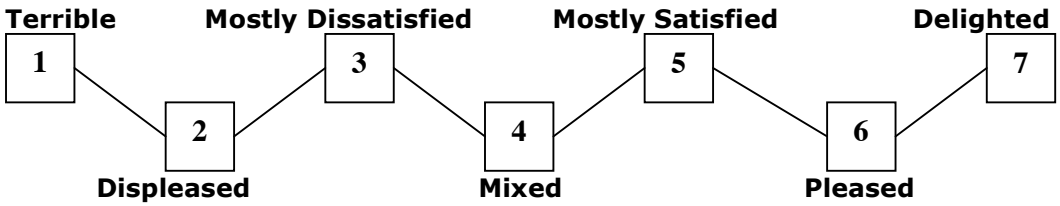
29. In the past 12 months were or are you enrolled on any full-time or part-time education course studying for any qualification even if you did not obtain them? *(Please tick one)*

Yes ☐ No ☐

30. What do you think about the general availability of the educational opportunities in your area? *(Please tick one)*

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

31. How do you feel about the range of educational opportunities that are available to you? *(Please circle one)*



Your Health…

32. In the last 12 months, how many times have you talked to, or visited a GP or family doctor about your own **physical** health? (Please do not include any visits to a hospital) *(Please tick one)*

- No Visits ☐
- One or Two ☐
- Three or More ☐
- Don't know ☐

33. In the last 12 months, how many times have you talked to, or visited a GP or family doctor about your own **mental** health? (Please do not include any visits to a hospital) *(Please tick one)*

- No Visits ☐
- One or Two ☐
- Three or More ☐
- Don't know ☐

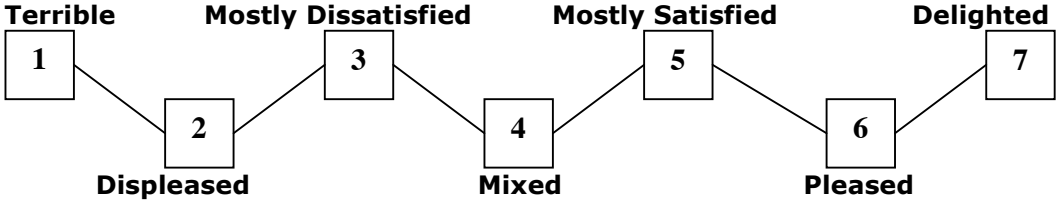
34. In the last 12 months, how many times have you attended a hospital or clinic (as a day patient or an in-patient) for a **physical** health problem? *(Please tick one)*

- No Visits ☐
- One or Two ☐
- Three or More ☐
- Don't know ☐

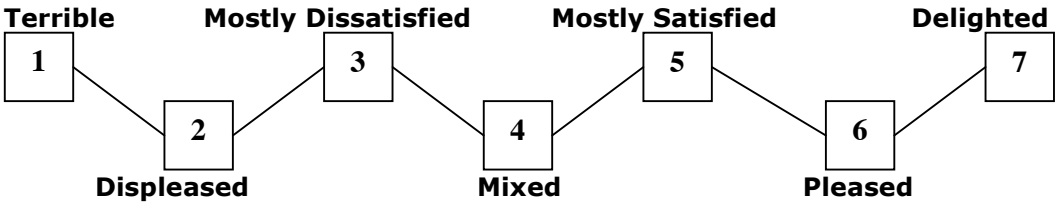
35. In the last 12 months, how many times have you attended a hospital or clinic (as a day patient or an in-patient) for a **mental** health problem? *(Please tick one)*

- No Visits ☐
- One or Two ☐
- Three or More ☐
- Don't know ☐

36. How do you feel about your opportunities to access health care when you need it for a physical health problem? *(Please circle one)*



37. How do you feel about your opportunities to access health care when you need it for a mental health problem? *(Please circle one)*



Your Family and Friends …

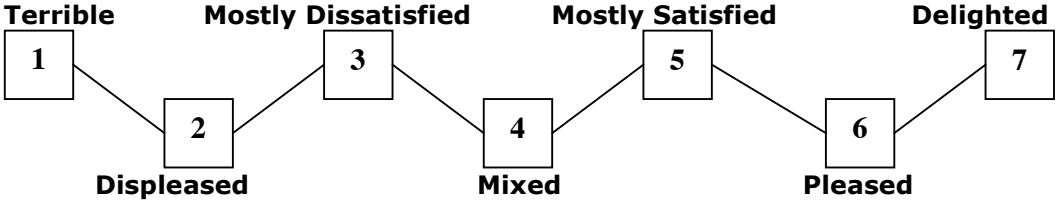
38. Are either of your parents alive? *(Please tick one)*

Yes	No	
☐	☐	Please move to Q40

39. How often are you in contact with your parents? *(Please tick one)*

Once a week or more	
Once a month	
Several times a year	
Once a year or less	
Never/ Almost never	

40. How do you feel about opportunities for contact with your family? *(Please circle one)*

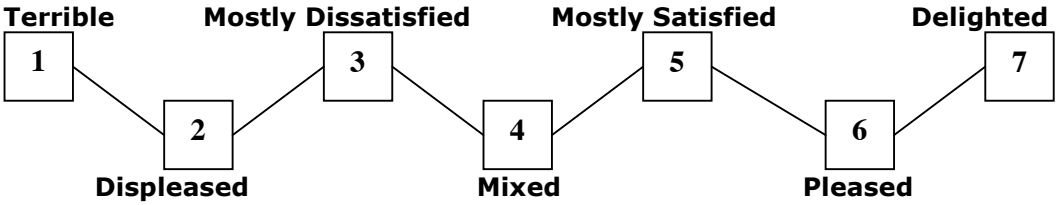


41. How many people would you call a friend? ☐

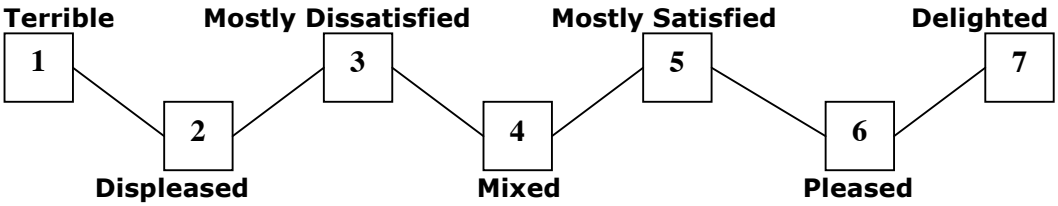
42. How often do YOU have friends or neighbours round to your house? *(Please tick one)*

Every day	
Several times a week	
At least once a week	
At least once a fortnight	
At least once a month	
Less than once a month	
Never	

43. How do you feel about your opportunities for contact with your friends and neighbours? (*Please circle one)*



44. Overall, how do you feel about the extent to which you are included in society? (*Please circle one)*



Profile Section

45. Gender (Please tick one)

Female ☐ Male ☐

46. What age were you on your last birthday?

☐

47. What is your ethnic group?

ASIAN or ASIAN BRITISH	Indian	
	Pakistani	
	Bangladeshi	
	Any other Asian background (please state)	
BLACK or BLACK BRITISH	Caribbean	
	African	
	Any other Black background (please state)	
CHINESE	Chinese	
MIXED	White and Black Caribbean	
	White and Black African	
	White and Asian	
	Any other mixed background	
WHITE	White British	
	White Irish	
	Any other White background	

48. Do you have any long-term illness, health problems or disability which limits your daily activities or the work you can do?
(Please tick one)
Include problems which are due to old age

Yes ☐ No ☐

THANK YOU FOR COMPLETING SCOPE

Swansea University
Prifysgol Abertawe

Centre for Social Work and Social Care Research
School of Human Sciences
Swansea University
Singleton Park
Swansea
Wales
United Kingdom
SA2 8PP

Appendix 12

Comparison of eigenvalues from principal component analysis and criterion values from parallel analysis

Component no.	Actual eigenvalue from PCA	Criterion value from parallel analysis	Decision
Leisure and participation			
1	5.195	1.6013	Accept
2	1.972	1.5036	
3	1.707	1.4274	
4	1.303	1.3666	Reject
5	1.269	1.3106	
6	1.172	1.2568	
7	1.032	1.1649	
Housing and accommodation			
1	2.773	1.3131	Accept
2	1.621	1.2184	
3	1.133	1.1454	Reject
4	0.909	1.0794	
Safety			
1	2.818	1.3131	Accept
2	1.038	1.2184	Reject
3	0.941	1.0356	
Work (for those in work)			
1	2.324	1.2033	Accept
2	1.602	1.1115	
3	0.880	1.0354	Reject
Work (for those not in work)			
1	2.013	1.1396	Accept
2	1.093	1.0405	
3	0.596	0.9566	Reject
Finance			
1	2.818	1.3131	Accept
2	1.038	1.2184	Reject
3	0.941	1.0356	
Education			
1	2.087	1.2622	Accept
2	1.558	1.1666	
3	1.011	1.0926	Reject
4	0.967	1.0267	

Component no.	Actual eigenvalue from PCA	Criterion value from parallel analysis	Decision
Health			
1	4.051	1.366	Accept
2	1.323	1.2750	
3	1.229	1.2018	
4	1.024	1.1353	Reject
5	0.893	1.0682	
Family and social			
1	4.478	1.5319	Accept
2	2.897	1.4331	
3	1.730	1.3622	
4	1.488	1.2991	
5	1.312	1.2411	Accept
6	1.074	1.1854	Reject
7	0.916	1.1340	

Appendix 13

Mini-SCOPE

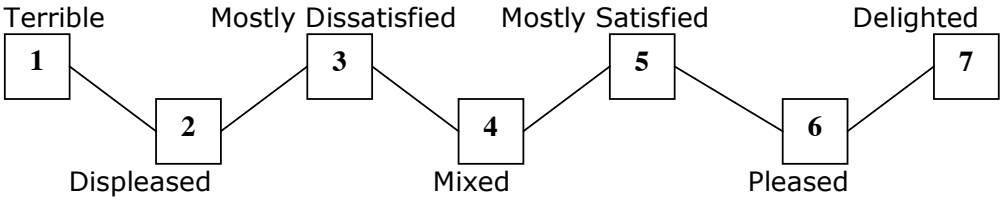
Mini SCOPE

Your Leisure Time…

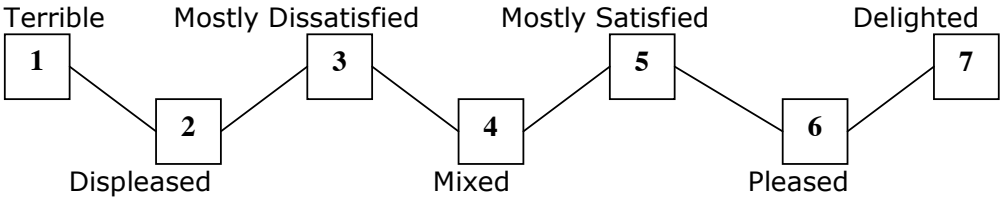
1. Are there any leisure, sports or entertainment facilities in your area? *Please tick one*

Yes	No	Don't Know
☐	☐	☐

2. How do you feel about the range of opportunities to be involved with community groups, clubs or organizations that are available in your area? (Please circle one)



3. Overall, how do you feel about the opportunities that you have to participate in leisure activities? (Please circle one)



Your Housing and Accommodation…

For the purpose of this survey a household is either: One person living alone OR a group of people (not necessarily related), living at the same address as their only or main residence with common housekeeping – that is, they normally share at least one meal per day or share the living accommodation (a living or sitting room).

4. What type of accommodation does your household occupy? (*Please tick one*)

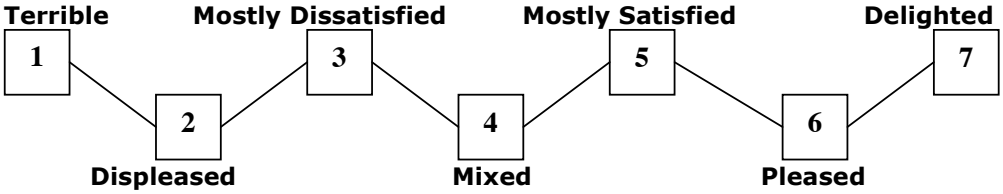
A *whole* house or bungalow that is:	
Detached	☐
Semi-detached	☐
Terraced (including end-terrace)	☐
A flat, maisonette, or apartment that is:	
In a purpose-built block of flats or tenement	☐
Part of converted or shared house (including bed-sits)	☐
In a commercial building (for example, in an office building, or hotel, or over a shop)	☐
Mobile or temporary structure:	
A caravan or other mobile or temporary structure	☐

5. What do you think about your opportunities to access suitable housing? *(Please tick one)*

There are plenty of opportunities	
There are good opportunities for some types of property	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

Your Work…

6. How do you feel about the range of opportunities for work that are available to you? (*Please circle one of the following options)*

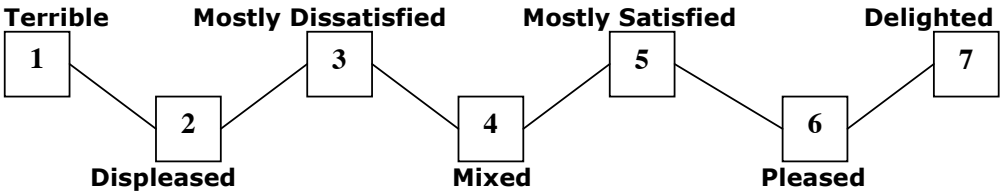


For those in work

7. Thinking about the seven days ending on Sunday how many hours did you actually work in your main job/business? *Write the number of hours in this box, and then go to question 9*

For those not working

8. How do you feel about not working?(Please circle one of the following options)

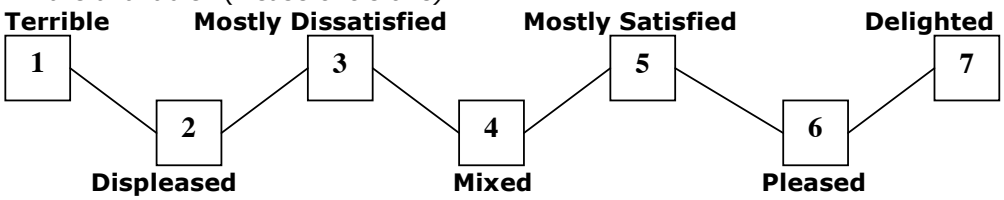


Your Finances…

9. What do you think about your opportunities to increase your personal income? *Please tick one*

There are plenty of opportunities	
There are some good opportunities	
Mixed	
Opportunities are quite limited	
Opportunities are extremely restricted	

10. How do you feel about the range of opportunities to secure additional income that are available? (*Please circle one)*



Your Safety…

11. Generally, how safe or unsafe do you feel living in your area? (*Please tick one)*

Very safe	
Fairly safe	
A bit unsafe	
Very unsafe	

Your Education…

12. What is the highest qualification you have obtained? (*Please tick one*)

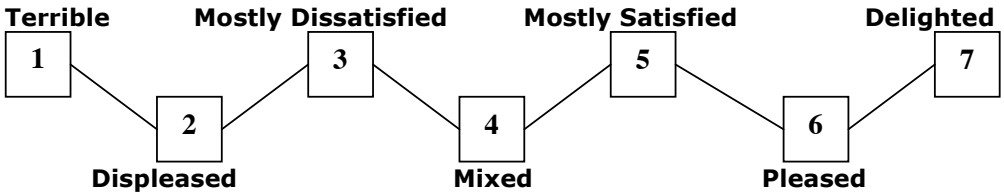
1 No Qualifications	
2 CSE/ GCSE/ 'O' Level	
3 School Certificate or Matric/ City and Guilds Ordinary Level	
4 'A' Levels/ City and Guilds Advanced Level	
5 Degrees/ Diplomas/ HNC/ HND	
6 Teaching qualification (excluding PGCE)	
7 Nursing or other medical qualification	
8 Other (please Specify)	

13. In the past 12 months were or are you enrolled on any full-time or part-time education course studying for any qualification even if you did not obtain them? *Please tick one*

Yes ☐ No ☐

Your Health…

14. How do you feel about your present physical health? (*Please circle one)*



15. In the last 12 months, how many times have you talked to, or visited a GP or family doctor about your own **mental** health? (Please do not include any visits to a hospital) *Please tick one only*

No Visits	☐
One or Two	☐
Three or More	☐
Don't know	☐

16. In the last 12 months, how many times have you attended a hospital or clinic (as a day patient or an in-patient) for a **physical** health problem? *Please tick one only*

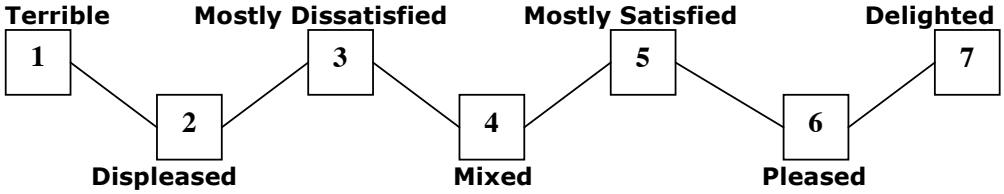
No Visits	☐
One or Two	☐
Three or More	☐
Don't know	☐

Your Family and Friends ….

17. Are either or both of your parents alive? Please tick one

Yes ☐ No ☐

18. How do you feel about the amount of contact you have with your family? (*Please circle one)*

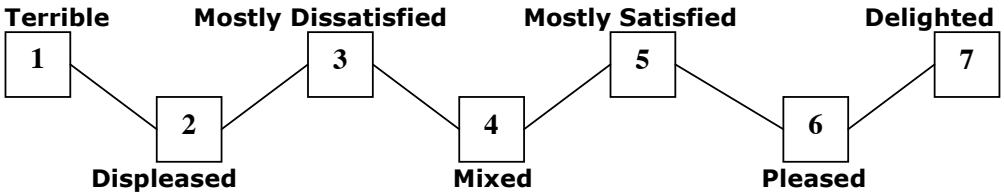


19. How many people would you call a friend?

20. How often do YOU have friends or neighbours round to your house?
Please tick ONE

1. Every day	
2. Several times a week	
3. At least once a week	
4. At least once a fortnight	
5. At least once a month	
6. Less than once a month	
7. Never	

21. Overall, how do you feel about the extent to which you are included in society?
(Please circle one)



Profile Section

22. Gender (Please tick one)

Female ☐ Male ☐

23. What age were you on your last birthday?

☐

24. What is your ethnic group?

Asian or Asian British	
Indian	
Pakistani	
Bangladeshi	
Any other Asian background	
Black or Black British	
Caribbean	
African	
Any other Black background	
Chinese	
Mixed	
White and Black Caribbean	
White and Black African	
White and Asian	
Any other mixed background	
White British	
White Irish	
Any other White background	
Other ethnic group	

25. Do you have any long-term illness, health problems or disability which limits your daily activities or the work you can do? *Include problems which are due to old age.*

Yes ☐ No ☐

THANKS FOR COMPLETING SCOPE

Appendix 14

Mokken scaling for polytomous items: process and results

Leisure/participation domain

Variable name	Variable label	Variable type	Comments
A01	A01: Are there any community groups?	Dichotomous	
A02	A02: Do you personally have access to a group?	Dichotomous	
A03	A03: Are you personally currently involved in a group?	Dichotomous	
Q4NowPastTotal	Total of citizenship membership now or in past	Polytomous	Put into categories
A05	A05: What do you think about the general availability of these groups and activities in your area?	Polytomous	
A06	A06: How do you feel about the range of opportunities to be involved with community groups, clubs or organisations that are available in your area?	Polytomous	
A07recoded	A07: In what ways (if any) would you like to change your opportunities to be involved with community groups, clubs or organisations that are available in your area?	Dichotomous	Recoded to change/ no change
A08	A08: Did you vote in the May 2005 UK General Election?	Dichotomous	
Q9VolPartTotal	Total of question 9 recodes	Polytomous	Put into categories
A010	A10: What do you think about the opportunities available in your area to undertake these kinds of activities?	Polytomous	
A11	A11: How do you feel about the range of opportunities for voluntary participation that are available?	Polytomous	
A12recoded	A12: In what ways (if any) would you like to change your opportunities for voluntary participation?	Dichotomous	Recoded to change/ no change
A013	A13: May I just check, have you ever used the internet at home or anywhere else?	Dichotomous	
A16	A16: Are there any leisure, etc., facilities in your area?	Dichotomous	
A17	A17: Do you have access to any leisure in your area?	Dichotomous	
A18	A18: Do you currently use any leisure?	Dichotomous	
q19total	Total question 19	Polytomous	Put into categories
A20	A20: What do you think about the general availability of opportunities in your area to undertake these kinds of activities?	Polytomous	
A21	A21: How do you feel about the range of leisure opportunities that are available to you?	Polytomous	
A22recoded	A22: In what ways (if any) would you like to change your leisure opportunities?	Dichotomous	Recoded to change/ no change
A23	A23: Overall, how do you feel about your own leisure activities?	Polytomous	
A24	A24: Overall, how do you feel about the opportunities that you have to participate in leisure activities?	Polytomous	

Housing domain

Variable name	Variable label	Variable type	Comments
B25	B25: Is there housing suitable for you and your household at a price that you can afford in the area that you want to live?	Dichotomous	
B26	B26: What type of accommodation does your household occupy?		Qualitative – not amenable to scaling
B27	B27: Which of these housing tenure descriptions applies to you as an individual?		Qualitative – not amenable to scaling
B30	B30: How do you feel about your accommodation?	Polytomous	
B31	B31: Roughly how many years have you lived in this area?	Polytomous	Put into categories
B32	B32: Thinking about the local area in which you live; how strong is your preference to continue living in this area?	Polytomous	
B33	B33: What do you think about your opportunities to access suitable housing?	Polytomous	
B34	B34: How do you feel about the range of opportunities for accommodation that are available?	Polytomous	
B35recoded	B35: In what ways (if any) would you like to change your housing circumstances?	Dichotomous	Recoded to change/ no change
B36	B36: How many cars or vans are owned, or available for use, by one or more members of your household? Include any company car or van if available for private use	Polytomous	

Safety domain

Variable name	Variable label	Variable type	Comments
C37	C37: Do you ever walk alone in this area after dark?	Dichotomous	
C39	C39: How safe do you feel walking alone in this area after dark?	Polytomous	
C40	C40: Generally, how safe or unsafe do you feel living in your area?	Polytomous	
C41	C41: How do you feel about the general safety of your area?	Polytomous	
C42	C42: During the past year have you been a victim of a crime or assault?	Dichotomous	
C44	C44: How do you feel about your personal safety?	Polytomous	

Work domain

This domain was spilt into employed and unemployed people, as the questions were routed on that basis. Given that a high percentage of the unemployed group were retired, the factor analysis was done on the unemployed group as a whole then with retired people.

Employed

Variable name	Variable label	Variable type	Comments
D45Working	D45: Work recode yes or no	Dichotomous	
D46	D46: How do you feel about your current job?	Polytomous	
D47	D47: Thinking about your main job, how many hours excluding overtime and meal breaks are you expected to work in a normal week?	Polytomous	Put into categories
D48	D48: Thinking about the 7 days ending on Sunday, how many hours did you actually work in your main job/business?	Polytomous	Put into categories
D50	D50: What do you think about your opportunities to find suitable work in this local area?	Polytomous	
D51	D51: How do you feel about the range of opportunities for work that are available to you?	Polytomous	
D52recoded	D52: In what ways (if any) would you like to change your opportunities for finding suitable work?	Dichotomous	Recoded to change/no change

Unemployed

Variable name	Variable label	Variable type	Comments
D49	D49: How do you feel about not working?	Polytomous	
D50	D50: What do you think about your opportunities to find suitable work in this local area?	Polytomous	
D51	D51: How do you feel about the range of opportunities for work that are available to you?	Polytomous	
D52recoded	D52: In what ways (if any) would you like to change your opportunities for finding suitable work?	Dichotomous	Recoded to change/no change

Finance domain

Variable name	Variable label	Variable type	Comments
E53MainIncome	E53: Main Source of Income		Qualitative – not amenable to scaling
E54B	E54b: What is your personal annual income (before tax if applicable)?	Polytomous	
E55	E55: In the last 12 months have you found yourself more than 2 months behind with the rent/mortgage?	Dichotomous	
E56	E56: How well would you say you are managing financially these days? Would you say you were …	Polytomous	
E57	E57: How easy or difficult is it for you for you to meet the costs of running this home (by that I mean, the costs of your rent/mortgage and other costs like heating and fuel)?	Polytomous	
E58	E58: If you needed someone to lend you a small amount of money (e.g. for a local taxi fare), do you know anybody who would be able to do so within 1 week?	Dichotomous	
E60	E60: If you needed someone to lend you a large amount of money (e.g. for a deposit on a flat or a house), do you know anybody who would be able to do so within 1 week?	Dichotomous	
E62	E62: What do you think about your opportunities to increase your personal income?	Polytomous	
E63	E63: How do you feel about the range of opportunities to secure additional income that are available?	Polytomous	
E64recoded	E64: In what ways (if any) would you like to change your opportunities to secure additional income?	Dichotomous	Recoded to change/ no change
E65	E65: Overall, how do you feel about your personal financial situation?	Polytomous	
E66	E66: Overall, how do you feel about your household financial situation?	Polytomous	

Education domain

Variable name	Variable label	Variable type	Comments
F68Recoded	F68: Highest educational qualifications recoded	Polytomous	Recoded 'teaching/nursing/other' into 'degree/diploma' after manually recoding 'others' into lowest level of qualifications
F69	F69: In the past 12 months were or are you enrolled on any full-time or part-time education course studying for any qualification even if you did not obtain them?	Dichotomous	
F71recoded	Adult learning in the last year	Dichotomous	Recoded into 0 'none'/1 'some'
F72recoded	Job-related learning in the last year	Dichotomous	Recoded into 0 'none'/1 'some'
F75	F75: What do you think about the general availability of educational opportunities?	Polytomous	
F76	F76: How do you feel about the range of educational opportunities that are available to you?	Polytomous	
F77recoded	F77: In what ways (if any) would you like to change your educational opportunities?	Dichotomous	Recoded to change/no change
F78	F78: How do you feel about your own education and training?	Polytomous	

Health domain

Variable name	Variable label	Variable type	Comments
G79A	G79: How is your health in general? Would you say it was (In the last year?)	Polytomous	
MHprob	Mental health problem dichotomised	Dichotomous	
PHproblem	Physical health problem dichotomised	Dichotomous	
G82	G82: How do you feel about your present physical health?	Polytomous	
G83	G83: How do you feel about your present mental health?	Polytomous	
G85a	G85: How many times have you talked to, or visited a GP or family doctor about your own physical health? (Please do not include any visits to a hospital) In the last year?	Polytomous	Not used in MSP analysis owing to missing data
G86a	G86: How many times have you talked to, or visited a GP or family doctor about your own mental health? (Please do not include any visits to a hospital) In the last year?	Polytomous	Not used in MSP analysis owing to missing data
G87a	G87: Approximately how many times have you attended a hospital or clinic as an outpatient or day patient (do not include Accident and Emergency) for a physical health problem? In the last year?	Polytomous	Not used in MSP analysis owing to missing data
G88a	G88: Approximately how many times have you attended a hospital or clinic as an outpatient or day patient (do not include Accident and Emergency) for a mental health problem? In the last year?	Polytomous	Not used in MSP analysis owing to missing data
G89a	G89: Approximately how many days have you spent in a hospital or clinic as an inpatient for a physical health problem? In the last year?	Polytomous	Not used in MSP analysis owing to missing data
G90a	G89: Approximately how many days have you spent in a hospital or clinic as an inpatient for a mental health problem? In the last year?	Polytomous	Not used in MSP analysis owing to missing data
G91	G91: What do you think about your opportunities to improve your health?	Polytomous	
G92	G92: How do you feel about the range of opportunities to improve your health that are available?	Polytomous	
G93recoded	G93: In what ways (if any) would you like to change your opportunities to improve your health?	Dichotomous	Recoded to change/no change

Family and social domain

Variable name	Variable label	Variable type	Comments
H94recoded	H94: What is your marital status?	Dichotomous	Recoded to single/together
H95	H95: Are either or both of your parents alive?	Dichotomous	
H96Mean	Mean contact with parents	Polytomous	Not used because of decimal places
H101Mean	Mean contact with other relatives	Polytomous	Not used because of decimal places
H102	H102: What do you think about the opportunities you have to contact your family?	Polytomous	
H103	H103: How do you feel about the range of opportunities to contact your family?	Polytomous	
H104recoded	H104: In what ways (if any) would you like to change your opportunities to contact your family?	Dichotomous	Recoded to change/no change
H105	H105: How do you feel about the amount of contact you have with your family?	Polytomous	
H106	H106: How do you feel about your relationship with your family?	Polytomous	
H107	H107: How many people would you call a friend?	Polytomous	Put into categories
H108	H108: Out of these friends, how many would you call a close friend?	Polytomous	Put into categories
H109	H109: How often do *you* have friends or neighbours round to your house?	Polytomous	
H110	H110: And how often do you go round to other people's houses? That is friends or neighbours	Polytomous	
H111	H111: And how often do you go out socially?	Polytomous	
H112	H112: How do you feel about the relationships you have with your friends?	Polytomous	
H113	H113: How do you feel about your opportunities for making new friends?	Polytomous	
H114	H114: What do you think about the opportunities to meet people in your area?	Polytomous	
H115	H115: How do you feel about the range of opportunities that are available to meet people?	Polytomous	
H116recoded	H116: In what ways (if any) would you like change your opportunities for meeting people?	Dichotomous	Recoded to change/no change
H117	H117: Overall, how do you feel about the extent to which you are included in society?	Polytomous	

Mokken scaling for polytomous items results: brief summary

Leisure domain

Scale 1: satisfaction

A06 How do you feel about the range of opportunities to be involved with community groups, clubs or organisations that are available in your area?

A11 How do you feel about the range of opportunities for voluntary participation that are available?

A21 How do you feel about the range of leisure opportunities that are available to you?

A23 Overall, how do you feel about your own leisure activities?

A24 Overall, how do you feel about the opportunities that you have to participate in leisure activities?

Scale $H = 0.38$

Rho = 0.75

Scale 2: opportunities

A05 What do you think about the general availability of these groups and activities in your area?

A07 In what ways (if any) would you like to change your opportunities to be involved with community groups, clubs or organisations that are available in your area?

A10 What do you think about the opportunities available in your area to undertake these kinds of activities?

A20 What do you think about the general availability of opportunities in your area to undertake these kinds of activities?

Scale $H = 0.41$

Rho = 0.68

Scale 3: objective items

A04 Total of citizenship membership now or in past

A09 Voluntary activity

Scale $H = 0.37$

Rho = 0.54

All other items did not fit into one of these scales. When tested together, these items did not form one homogeneous scale.

Housing domain

Scale 1: satisfaction

B25 Is there housing suitable for you and your household at a price that you can afford in the area that you want to live?

B30 How do you feel about your accommodation?

B34 How do you feel about the range of opportunities for accommodation that are available?

Scale $H = 0.51$

Rho = 0.66

Scale 2: opportunities

B32 Thinking about the local area in which you live; how strong is your preference to continue living in this area?

B33 What do you think about your opportunities to access suitable housing?

B35 In what ways (if any) would you like to change your housing circumstances?

Scale $H = 0.42$

Rho = 0.58

All other items did not fit into one of these scales. When tested together, these items did not form one homogeneous scale.

Safety domain

Scale 1: personal safety living in your area

C39: How safe do you feel walking alone in this area after dark?

C40: Generally, how safe or unsafe do you feel living in your area?

Scale $H = 0.97$

Rho = 0.82

Scale 2: satisfaction

C41: How do you feel about the general safety of your area?

C44: How do you feel about your personal safety?

Scale $H = 0.58$

Rho = 0.73

All other items did not fit into one of these scales. When tested together, these items did not form one homogeneous scale.

Employment domain (only for people employed)

Scale 1: objective items

D47 Thinking about your main job, how many hours excluding overtime and meal breaks are you expected to work in a normal week?

D48 Thinking about the 7 days ending on Sunday how many hours did you actually work in your main job/business?

Scale $H = 0.78$

Rho = 0.78

Scale 2: opportunities

D50 What do you think about your opportunities to find suitable work in this local area?

D52 In what ways (if any) would you like to change your opportunities for finding suitable work?

Scale $H = 0.64$

Rho = 0.73

Scale 3: satisfaction

D46: How do you feel about your current job?

D51: How do you feel about the range of opportunities for work that are available to you?

Scale $H = 0.47$

Rho = 0.61

All items were included in one of these scales, but did not form one homogeneous scale.

Employment domain (only for people unemployed)

Scale 1: satisfaction

D49: How do you feel about not working?

D51: How do you feel about the range of opportunities for work that are available to you?

Scale $H = 0.61$

Rho = 0.73

The other items were not selected for a scale and the four items did not fit together into one homogeneous scale.

Finance domain

Scale 1: opportunities

E56: How well would you say you are managing financially these days?

E57: How easy or difficult is it for you for you to meet the costs of running this home (by that I mean, the costs of your rent/mortgage and other costs like heating and fuel)?

E58: If you needed someone to lend you a small amount of money (e.g. for a local taxi fare), do you know anybody who would be able to do so within 1 week?

E60: If you needed someone to lend you a large amount of money (e.g. for a deposit on a flat or a house), do you know anybody who would be able to do so within 1 week?

E62: What do you think about your opportunities to increase your personal income?

Scale $H = 0.53$

Rho = 0.79

Scale 2: satisfaction

E54: What is your personal annual income (before tax if applicable)?*

E63: How do you feel about the range of opportunities to secure additional income that are available?

E65: Overall, how do you feel about your personal financial situation?

E66: Overall, how do you feel about your household financial situation?

Scale $H = 0.52$

Rho = 0.83

*E54 is a weak item in this scale. If removed, the scale is strengthened to:

- E63: How do you feel about the range of opportunities to secure additional income that are available?
- E65: Overall, how do you feel about your personal financial situation?
- E66: Overall, how do you feel about your household financial situation?

Scale $H = 0.65$

Rho = 0.85

The seven items in the two scales do not form one homogeneous scale.

Education domain

Scale 1: bit of everything (run 1)

F68: Highest educational qualifications

F71: Adult learning in the last year*

F72: Job-related training

F78: How do you feel about your own education and training?

Scale $H = 0.33$

Rho = 0.54

These items have a poor fit in the scale and the other four items do not fit in at all. Item F71 has a poor item homogeneity within this scale. When removed, and the search is started again from scratch we find that satisfaction and objective items are brought together in one scale, but this remains quite a poor scale.

Scale 1: satisfaction and objective items

F68: Highest educational qualifications

F72: Job-related training

F76: How do you feel about the range of educational opportunities that are available to you?

F78: How do you feel about your own education and training?

Scale $H = 0.33$

Rho = 0.59

Health domain

MSP could not find any homogeneous scales or subscales within the health domain!

Social domain

This search produced lots of scales, but I forced it to find no more than three to make them as robust as possible. This is what it came up with:

Scale 1: satisfaction with family

H103: How do you feel about the range of opportunities to contact your family?

H105: How do you feel about the amount of contact you have with your family?

H106: How do you feel about your relationship with your family?

Scale $H = 0.71$

Rho = 0.86

Scale 2: satisfaction with friends

H112: How do you feel about the relationships you have with your friends?

H113: How do you feel about your opportunities for making new friends?

H115: How do you feel about the range of opportunities that are available to meet people?

H117: Overall, how do you feel about the extent to which you are included in society?

Scale $H = 0.53$

Rho = 0.80

Scale 3: objective items

H109: How often do *you* have friends or neighbours round to your house?

H110: And how often do you go round to other people's houses? That is friends or neighbours.

H111: And how often do you go out socially?

Scale $H = 0.43$

Rho = 0.68

Appendix 15

Discriminant validity Mini-SCOPE

The 21 items included in the Mini-SCOPE were also tested for discriminant validity.

Continuous items

Continuous items were tested for discriminant validity using one-way ANOVA.

Satisfaction with opportunities to be involved in community groups

(*How do you feel about the range of opportunities to be involved with community groups, clubs or organisations that are available in your area?*)

Mental health status has a small ($\eta^2 = 0.05$)[137] and statistically significant association with SatOpps to be involved in community groups [$F(2,252) = 6.7$, $p = 0.00$].

The results presented in *Table 32* indicate that SatOpps to be involved in community groups scores for the MHC group are significantly higher than those for the CMD group. On average, MHC group scores were 5.8 points higher than CMD group scores. The MHSU group scores were higher than the CMD group scores by an average of 0.9 points, although this difference could have ranged from 0.3 points to 1.5 points. While the MHSU group's scores were lower by an average of 0.41 points than the MHC group, this difference was not statistically significant.

TABLE 32 Satisfaction with opportunities to be involved in community groups by mental health status group (one item: minimum score = 1, maximum score = 7)

Effect size (η^2)=0.05 (small)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4 (1.5)	MHC	–0.91	0.00	–1.52	–0.29
		MHSU	–0.50	NS	–1.27	0.27
MHC	4.9 (1.3)	CMD	0.91	0.00	0.29	1.52
		MHSU	0.41	NS	–0.17	0.97
MHSU	4.5 (1.4)	CMD	0.50	NS	–0.27	1.27
		MHC	–0.41	NS	–0.97	0.17

Satisfaction with opportunities to participate in leisure activities

(*Overall, how do you feel about the range of opportunities that you have to participate in leisure activities?*)

Mental health status has a medium ($\eta^2 = 0.08$)[137] and statistically significant association with SatOpps to participate in leisure activities [$F(2,268) = 11.69$, $p = 0.00$].

The results presented in *Table 33* indicate that SatOpps to participate in leisure activities scores for the MHC group are significantly higher than those for the CMD and MHSU groups. On average, MHC group scores were 0.9 points higher than the CMD group scores, with a 95% confidence interval of 0.35 to 1.44 points, and an average of 0.8 points higher than the MHSU group scores. This difference could have ranged from 0.26 points to 1.36 points. The MHSU group's scores were lower by an average of 0.09 points than the CMD group; this difference was not statistically significant.

TABLE 33 Satisfaction with opportunities to be participate in leisure activities by mental health status group (one item: minimum score = 1, maximum score = 7)

Effect size (η^2) = 0.08 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.17 (1.6)	MHC	–0.89	0.00	–1.44	–0.35
		MHSU	–0.09	NS	–0.80	0.63
MHC	5.1 (1.2)	CMD	0.89	0.00	0.35	1.44
		MHSU	0.81	0.00	0.26	1.36
MHSU	4.3 (1.2)	CMD	0.09	NS	–0.63	0.80
		MHC	–0.81	0.00	–1.36	–0.26

Perceived opportunities to access housing

(*What do you think about your opportunities to access suitable housing?*)

Mental health status does not have a statistically significant association with the Perceived Opps to access housing score [$F(2,268) = 2.83$, $p = 0.06$]. The results presented in *Table 34* indicate that while the CMD group scored slightly higher on Perceived Opps to access housing than the MHC and MHSU groups, this difference was not statistically significant.

TABLE 34 Perceived opportunities to access housing by mental health status group (one item: minimum score = 1, maximum score = 5)

Effect size (η^2) = 0.02 (small)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	3.35 (1.5)	MHC	0.53	NS	–0.07	1.12
		MHSU	0.18	NS	–0.56	0.93
MHC	2.8 (1.3)	CMD	–0.53	NS	–1.12	0.07
		MHSU	–0.34	NS	–0.90	0.21
MHSU	3.2 (1.4)	CMD	–0.18	NS	–0.93	0.56
		MHC	0.34	NS	–0.21	0.90

Satisfaction with opportunities for work

(*How do you feel about the range of opportunities for work that are available to you?*)

Mental health status has a medium ($\eta^2 = 0.07$)[137] and statistically significant association with SatOpps to work [$F(2,206) = 6.99$, $p = 0.00$].

The results presented in *Table 35* indicate that SatOpps to work scores for the MHC group are significantly higher than those of the CMD group. On average MHC group scores were 1.1 points higher than the CMD group scores, with a 95% confidence interval of 0.34 to 1.8 points. While the MHC groups scores were also higher than the MHSU group, this difference was not statistically significant. The MHSU scores were higher than the CMD scores but again, this difference was not statistically significant.

TABLE 35 Satisfaction with opportunities for work by mental health status group (one item: minimum score = 1, maximum score = 7)

Effect size (η^2) = 0.07 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	3.03 (1.3)	MHC	–1.06	0.00	–1.78	–0.34
		MHSU	–0.47	NS	–1.36	0.43
MHC	4.1 (1.6)	CMD	1.06	0.00	0.34	1.78
		MHSU	0.59	NS	–0.09	1.27
MHSU	3.5 (1.4)	CMD	0.47	NS	–0.43	1.36
		MHC	–0.59	NS	–1.27	0.09

Number of hours worked

(*Thinking about the 7 days ending on Sunday, how many hours did you actually work in your main job or business?*)

Mental health status does not have a statistically significant association with the number of hours worked [$F(2,90) = 0.28$, $p = 0.76$]. The results presented in *Table 36* indicate that while on average the MHC group scored worked slightly longer hours, this difference was not statistically significant.

TABLE 36 Number of hours worked by mental health status group (one item: minimum score = 0, maximum score = 70)

Effect size (η^2) = 0.01 (small)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	28.11 (20.1)	MHC	–2.6	NS	–17.53	12.31
		MHSU	1.6	NS	–18.38	21.50
MHC	30.72 (17.7)	CMD	2.7	NS	–12.31	17.53
		MHSU	4.2	NS	–10.76	19.09
MHSU	26.6 (16.0)	CMD	–1. 6	NS	–21.50	18.38
		MHC	–4.2	NS	–19.09	10.76

Subjective well-being: unemployment

(*How do you feel about not working?*)

Mental health status has a medium ($\eta^2 = 0.13$)[137] and statistically significant association with the SWB unemployment scale [$F(2,187) = 14.5$, $p = 0.00$].

The results presented in *Table 37* indicate that the SWB unemployment scores for the MHC group are significantly higher than those for the CMD group. On average, MHC group scores were 1.2 points higher than the CMD group scores, with a 95% confidence interval of 0.4 to 2 points. The scores for the MHC group were also significantly higher than those for the MHSU group, with an average score of 1.5 points more. This difference could have ranged between 0.7 and 2.2 points. While the CMD groups scores were also higher than the MHSU group, this difference was not statistically significant.

TABLE 37 Subjective well-being unemployment scores by mental health status group (one item: minimum score = 1, maximum score = 7)

Effect size (η^2) = 0.13 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.1 (1.8)	MHC	–1.16	0.00	–1.96	–0.37
		MHSU	0.33	NS	–0.66	1.32
MHC	5.2 (1.6)	CMD	1.16	0.00	0.37	1.96
		MHSU	1.5	0.00	0.74	2.24
MHSU	3.7 (1.4)	CMD	–0.33	NS	–1.32	0.66
		MHC	–1.5	0.00	–2.24	–0.74

Perceived opportunities to increase income

(*What do you think about your opportunities to increase your personal income?*)

Mental health status does not have a statistically significant association with the Perceived Opps to increase income score [$F(2,235) = 1.63$, $p = 0.2$]. The results presented in *Table 38* indicate that while the CMD group scored slightly higher on the Perceived Opps to increase income score than the MHC and MHSU groups, this difference was not statistically significant.

TABLE 38 Perceived opportunities to increase income score by mental health status group (one item: minimum score = 1, maximum score = 5)

Effect size (η^2) = 0.01 (small)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.09 (1.2)	MHC	0.34	NS	–0.19	0.87
		MHSU	0.09	NS	–0.55	0.74
MHC	3.75 (1.2)	CMD	–0.34	NS	–0.87	0.19
		MHSU	–0.25	NS	–0.73	0.23
MHSU	4.0 (1.1)	CMD	–0.09	NS	–0.74	0.55
		MHC	0.25	NS	–0.23	0.73

Satisfaction with opportunities to increase income

(*How do you feel about the range of opportunities to secure additional income that are available?*)

Mental health status has a medium ($\eta^2 = 0.05$)[137] and statistically significant association with the SatOpps to increase income scale [$F(2,217) = 5.37$, $p = 0.01$].

The results presented in *Table 39* show that the SatOpps to increase income scores for the MHC group are significantly higher than those for the MHSU group. On average, MHC group scores were 0.8 points higher than the MHSU group scores, with a 95% confidence interval of 0.2 to 1.5 points. While the scores for the MHC group were also significantly higher than those of the CMD group, this difference was not statistically significant.

TABLE 39 Satisfaction with opportunities to Increase Income scale by mental health status group (one item: minimum score = 1, maximum score = 7)

Effect size (η^2) = 0.05 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	3.2 (1.4)	MHC	–0.49	NS	–0.51	0.20
		MHSU	0.34	NS	–0.51	1.18
MHC	3.7 (1.5)	CMD	0.49	NS	–0.51	1.17
		MHSU	0.82	0.01	0.19	1.45
MHSU	2.9 (1.4)	CMD	–0.34	NS	–1.18	0.51
		MHC	–0.82	0.01	–1.45	–0.19

Subjective well-being physical health

(*How do you feel about your present physical health?*)

Mental health status has a large ($\eta^2 = 0.16$)[137] and statistically significant association with subjective well-being physical health [$F(2,288) = 27.18$, $p = 0.00$].

The results presented in *Table 40* show that the subjective well-being physical health scores for the MHC group are significantly higher than those of the MHSU and CMD groups. On average, MHC group scores were 1.4 points higher than the MHSU group scores, with a 95% confidence interval of 1.8 to 2 points, and 1.4 points higher than the CMD group scores, again with a 95% confidence interval of 1.8 to 2 points. The average scores for the MHSU and CMD groups were identical at 3.8.

TABLE 40 Subjective well-being physical health by mental health status group (one item: minimum score = 1, maximum score = 7)

Effect size (η^2) = 0.16 (large)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	3.8 (1.6)	MHC	−1.38	0.00	−1.97	−1.79
		MHSU	1.05	NS	−1.71	1.81
MHC	5.2 (1.4)	CMD	1.38	0.00	1.79	1.97
		MHSU	1.43	0.00	1.84	2.02
MHSU	3.8 (1.5)	CMD	−1.05	NS	−1.81	1.71
		MHC	−1.43	0.00	−2.02	−1.84

Subjective well-being family contact

(*How do you feel about the amount of contact that you have with your family?*)

As the Levene test of homogeneity of variances was violated in this case ($p = 0.00$), and was not improved by repeating the test with transformed data, results are reported for the Welch and Brown–Forsythe tests instead. There was a medium ($\eta^2 = 0.09$)[137] and statistically significant relationship (Welch = 8.7, $p = 0.00$; Brown–Forsythe = 9.1, $p = 0.00$) between mental health status and subjective well-being family contact score. *Table 41* shows the mean scores and standard deviation per mental health status group. The MHSU group had the highest mean score and the MHC group the lowest.

TABLE 41 Subjective well-being family contact by mental health status group (one item: minimum score = 0, maximum score = 7)

Effect size (η^2) = 0.09 (medium)	Mean (SD)
CMD	5.03 (1.5)
MHC	5.62 (1.2)
MHSU	4.49 (1.8)

Number of friends

(*How many people would you call a friend?*)

Again, the Levene test of homogeneity of variances was violated in this case ($p = 0.01$), and was not improved by repeating the test with transformed data, so results are reported for the Welch and Brown–Forsythe tests instead. There was a small ($\eta^2 = 0.02$)[137] and statistically significant relationship (Welch = 16.28, $p = 0.00$; Brown–Forsythe = 3.52, $p = 0.04$) between mental health status and the number of friends. *Table 42* shows the mean scores and standard deviation by mental health status group. On average, the MHSU group had the most friends and the CMD group the fewest.

TABLE 42 Number of friends by mental health status group (one item: minimum score = 0, maximum score = 204)

Effect size (η^2) = 0.02 (small)	Mean (SD)
CMD	5.7 (5.9)
MHC	16.7 (25.2)
MHSU	14.9 (33.1)

Overall inclusion in society

(*Overall, how do you feel about the extent to which you are included in society?*)

Mental health status has a large ($\eta^2 = 0.15$)[137] and statistically significant association with overall inclusion in society [$F(2,286) = 24.46$, $p = 0.00$].

The results presented in *Table 43* show that the overall social inclusion in society scores for the MHC group are significantly higher than those of the MHSU and CMD groups. On average, MHC group scores were 1.2 points higher than the MHSU group scores, with a 95% confidence interval of 0.7 to 1.7 points, and 1 point higher than the CMD group scores, with a 95% confidence interval of 0.5 to 1.5 points. The average scores for the MHSU and CMD groups were almost identical, with the MHSU group scoring an average of 4 points and the CMD group scoring 4.1 points.

TABLE 43 Overall social inclusion by mental health status group (one item: minimum score = 1, maximum score = 7)

					95% confidence interval	
Effect size (η^2) = 0.15 (large)	Mean (SD)	Mean difference		*p*-value	Lower bound	Upper bound
CMD	4.1 (1.4)	MHC	–1.03	0.00	–1.53	–0.54
		MHSU	0.15	NS	–0.49	0.79
MHC	5.1 (1.1)	CMD	1.03	0.00	0.54	1.53
		MHSU	1.19	0.00	0.69	1.67
MHSU	4.0 (1.6)	CMD	–0.15	NS	–0.79	0.49
		MHC	–1.19	0.00	–1.67	–0.69

Appendix 16

Discriminant validity Mokken scales and scores: long version

The Mokken Leisure Satisfaction Scale, the Mokken Leisure Opportunities Scale, the Mokken Leisure Objective Items Score, the Mokken Housing Satisfaction Score, the Mokken Employed Satisfaction Score, the Mokken Unemployed Satisfaction Score and the Mokken Education Mixed were all significantly skewed. Skewness was tested using the formula: skewness/standard error of skewness. Values falling outside the range of ± 1.96 are skewed. For the analyses that follow, the skewed variables were transformed to meet the assumption of normality required for parametric tests. Unless otherwise stated, the significance, magnitude and direction of effects did not differ in analyses of untransformed and transformed data. Consequently, where this is the case, results based on untransformed data are presented for ease of interpretation. The skewed variables were transformed using either reflect and logarithm [new variable = LG10 (*K*–old variable), where *K* is the largest possible value of the variable + 1] or reflect and square root [new variable = square root (*K*–old variable), where *K* is the largest possible value of the variable + 1]. Tests for significant skew were repeated following the transformation and all the variables fell within the normal distribution range. The Mokken Housing Opportunities Score, the Mokken Personal Safety Score, the Mokken Satisfaction Safety Score, the Mokken Employed Objective Score, the Mokken Employed Opportunities Score, the Mokken Finance Opportunities Scale, the Mokken Finances Satisfaction Scale and the Mokken Objective Items Social Score all had normal distributions originally, and did not require transformation.

Analysis of transformed and untransformed data produced the same results in terms of the nature, magnitude and significance of differences, so the results that follow are based on the original untransformed data, for ease of interpretation.

Mokken Leisure Satisfaction Scale

Mental health status has a medium ($\eta^2 = 0.09$)[137] and statistically significant association with Mokken Leisure Satisfaction scores [$F(2,286) = 13.7$, $p = 0.00$]. The results presented in *Table 44* indicate that Mokken Leisure Satisfaction scores for the CMD group are significantly lower than those for the MHC and MHSU groups. On average, MHC group scores were 5.8 points higher than CMD group scores. The MHSU group scores were higher than the CMD group scores by an average of 3.7 points, although this difference could have ranged from 0.22 points to 7.18 points. While the MHSU group's scores were lower by an average of 2.1 points than the MHC group, this difference was not statistically significant.

TABLE 44 Mokken Leisure Satisfaction Scale Score by mental health status group (five items: minimum score = 1, maximum score = 35)

Effect size (η^2) = 0.09 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	17.33 (7.11)	MHC	–5.8	0.00	–8.47	–3.13
		MHSU	–3.7	0.03	–7.18	–0.22
MHC	23.12 (6.54)	CMD	5.8	0.00	3.13	8.47
		MHSU	2.1	NS	–0.6	4.79
MHSU	21.03 (6.05)	CMD	3.7	0.03	0.220	7.18
		MHC	–2.09	NS	–4.79	0.6

Mokken Leisure Opportunities Scale

Mental health status has a medium ($\eta^2 = 0.07$)[137] and statistically significant association with Mokken Leisure Opportunities Scores [$F(2,292) = 10.5$, $p = 0.00$]. The results presented in *Table 45* indicate that Mokken Leisure Opportunities Scale scores for the MHSU group were significantly higher than for the CMD group by an average of 3.9 points, although this difference could have ranged from 1.8 points to 5.9 points. The MHSU scores were also higher than the MHC scores by an average of 1.2 points, but this difference was not statistically significant. The MHC group also scored significantly higher than the CMD group score; on average, MHC group scores were 5.6 points higher than CMD group scores, with a confidence interval ranging from 1.0 to 4.2 points.

TABLE 45 Mokken Leisure Opportunities Scale Score by mental health status group (four items: minimum score = 0, maximum score = 16)

Effect size (η^2) = 0.07 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	7.13 (4.11)	MHC	–2.6	0.00	–4.24	–1.01
		MHSU	–3.9	0.00	–5.91	–1.8
MHC	9.75 (4.14)	CMD	2.6	0.00	1.01	4.24
		MHSU	–1.2	NS	–2.8	0.34
MHSU	10.98 (2.82)	CMD	3.9	0.00	1.79	5.91
		MHC	1.2	NS	–0.034	2.79

Mokken Leisure Objective Items

Mental health status has a small ($\eta^2 = 0.05$)[137] and statistically significant association with the Mokken Leisure Objective Items Score [$F(2,291) = 7.4$, $p = 0.01$]. The results presented in *Table 46* indicate that Mokken Leisure Objective Items Score for the MHSU group was significantly higher than for the CMD group by an average of 2.21 points, although this difference could have ranged from 0.85 points to 3.8 points. The MHSU scores were also significantly higher than the MHC scores by an average of 1.2 points, with a confidence interval ranging from 1.0 to 4.2 points. The MHC group scored an average of 0.97 points more than the CMD group but this difference was not statistically significant.

TABLE 46 Mokken Leisure Objective Items by mental health status group (two items: minimum score = 0, maximum score = 15)

Effect size (η^2) = 0.05 (small)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	2.12 (2.8)	MHC	–0.97	NS	–2.04	0.09
		MHSU	–2.21	0.000	–3.57	–0.84
MHC	3.1 (2.51)	CMD	0.097	NS	–0.09	2.04
		MHSU	–1.23	0.016	–2.28	–0.19
MHSU	4.33 (2.94)	CMD	2.21	0.000	0.84	3.57
		MHC	1.23	0.016	0.19	2.28

Mokken Housing Satisfaction

Mental health status has a medium ($\eta^2 = 0.09$)[137] and statistically significant association with the Mokken Housing Satisfaction Score [$F(2,290) = 13.5$, $p = 0.00$]. The results presented in *Table 47* show that Mokken Housing Satisfaction Score for the MHC group was significantly higher than for the CMD group by an average of 1.1 points, although this difference could have ranged from 0.1 points to 2.1 points. The MHC scores were also significantly higher than the MHSU scores by an average of 2 points, with a confidence interval ranging from 1.0 to 3 points. The CMD group scored an average of 1 point more than the CMD group, but this difference was not statistically significant.

TABLE 47 Mokken Housing Satisfaction Items by mental health status group (three items: minimum score = 0, maximum score = 15)

Effect size (η^2) = 0.09 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	10.5 (2.76)	MHC	–1.1	0.03	–2.08	–0.11
		MHSU	0.91	NS	–0.36	2.19
MHC	11.6 (2.21)	CMD	1.1	0.03	0.11	2.09
		MHSU	2.01	0.00	1.04	3.0
MHSU	9.6 (3.1)	CMD	–0.91	NS	–2.19	0.36
		MHC	–2.01	0.00	–3.0	1.04

Mokken Housing Opportunities

Mental health status does not have a statistically significant association with the Mokken Housing Opportunities Score [$F(2,292) = 0.9$, $p = 0.395$]. The results presented in *Table 48* show that, although the MHC group scored slightly higher on Mokken Housing Opportunities than the CMD and MHSU groups, this difference was not statistically significant.

TABLE 48 Mokken Housing Opportunities Score by mental health status group (three items: minimum score = 0, maximum score = 11)

					95% confidence interval	
Effect size (η^2) = 0.01 (small)	Mean (SD)	Mean difference		*p*-value	Lower bound	Upper bound
CMD	7 (2.4)	MHC	–0.34104	NS	–1.1	0.41
		MHSU	–0.02500	NS	–0.99	0.99
MHC	7.3 (1.7)	CMD	0.34104	NS	–0.41	1.1
		MHSU	0.31604	NS	–0.42	1.05
MHSU	7 (1.7)	CMD	0.02500	NS	–0.94	0.99
		MHC	–0.31604	NS	–1.05	0.42

Mokken Personal Safety Score

Mental health status has a small ($\eta^2 = 0.02$)[137] and statistically significant association with the Mokken Personal Safety Score [$F(2,288) = 3.7$, $p = 0.03$]. The results presented in *Table 49* show that the Mokken Personal Safety Score for the MHSU group was significantly higher than for the CMD group by an average of 1 point. This difference could have ranged from 0.13 points to 1.9 points. The MHC group scored an average of 0.9 points more than the CMD group, but this difference was not statistically significant.

TABLE 49 Mokken Personal Safety Score by mental health status group (two items: minimum score = 0, maximum score = 8)

					95% confidence interval	
Effect size (η^2) = 0.02 (small)	Mean (SD)	Mean difference		*p*-value	Lower bound	Upper bound
CMD	4 (2.3)	MHC	–1.0	0.02	–1.87	–0.13
		MHSU	–0.9	NS	–2.06	0.17
MHC	5 (2.1)	CMD	1.0	0.02	0.13	1.87
		MHSU	0.07	NS	–0.76	0.89
MHSU	4.9 (2)	CMD	0.9	NS	–0.17	2.06
		MHC	–1.0	NS	–0.89	0.76

Mokken Satisfaction Safety Score

Mental health status has a large ($\eta^2 = 0.14$)[137] and statistically significant association with the Mokken Satisfaction Safety Score [$F(2,290) = 20.8$, $p = 0.00$]. The results presented in *Table 50* show that the Mokken Satisfaction Safety Score for the MHC group was significantly higher than for the CMD group by an average of 1.52 points. This difference could have ranged from 0.7 points to 2.4 points. The Mokken Satisfaction Safety Score for the MHC group was also significantly higher than for the MHSU group by an average of 2 points. This difference could have ranged from 1.1 points to 2.8 points. The CMD group scored an average of 0.44 points more than the MHSU group, but this difference was not statistically significant.

TABLE 50 Mokken Satisfaction Safety Score by mental health status group (two items: minimum score = 2, maximum score = 14)

					95% confidence interval	
Effect size (η^2) = 0.14 (large)	Mean (SD)	Mean difference		*p*-value	Lower bound	Upper bound
CMD	9.1 (2.8)	MHC	–1.52	0.000	–2.37	–0.67
		MHSU	0.44	NS	–0.65	1.54
MHC	10.6 (1.8)	CMD	1.52	0.000	0.67	2.37
		MHSU	2	0.000	1.12	2.8
MHSU	8.7 (2.6)	CMD	–0.44	NS	–1.54	0.65
		MHC	–2	0.000	–2.8	–1.12

Mokken Employed Objective Score

Mental health status does not have a statistically significant association with the Mokken Employed Objective Score [$F(2,90) = 1.18$, $p = 0.313$]. The results presented in *Table 51* show that, although the MHC group scored slightly higher on the Mokken Employed Objective Score than the CMD and MHSHU groups, this difference was not statistically significant.

TABLE 51 Mokken Employed Objective Score by mental health status group (two items: minimum score = 6, maximum score = 130)

					95% confidence interval	
Effect size (η^2) = 0.03 (small)	Mean (SD)	Mean difference		*p*-value	Lower bound	Upper bound
CMD	54.9 (35.6)	MHC	–8.75	NS	27.54	82.24
		MHSU	5.17	NS	57.19	70.11
MHC	63.6 (28.1)	CMD	8.75	NS	26.46	72.99
		MHSU	13.92	NS	55.45	67.44
MHSU	49.7 (30.3)	CMD	–5.17	NS	27.54	82.24
		MHC	–13.92	NS	57.17	70.11

Mokken Employed Opportunities Score

As the Levene test of homogeneity of variances was violated in this case ($p = 0.00$), and was not improved by repeating the test with transformed data, results are reported for the Welch and Brown–Forsythe tests instead. There was a small ($\eta^2 = 0.03$)[137] and statistically significant relationship (Welch = 7.7, $p = 0.0$; Brown–Forsythe = 6.4, $p = 0.02$) between mental health status and the Mokken Employed Opportunities Score. *Table 52* shows the mean scores and standard deviation by mental health status group. The MHSU group had the highest mean score and the MHC group the lowest.

TABLE 52 Mokken Employed Opportunities Score by mental health status group (two items: minimum score = 0, maximum score = 6)

Effect size (η^2) = 0.03 (small)	Mean (SD)
CMD	1.85 (1.41)
MHC	1.68 (1.55)
MHSU	2.5 (1.1)

Mokken Employed Satisfaction Score

Mental health status has a medium ($\eta^2 = 0.11$)[137] and statistically significant association with the Mokken Employed Satisfaction Score [$F(2,210) = 12.9$, $p = 0.00$]. The results presented in *Table 53* show that the Mokken Employed Satisfaction Score for the MHC group was significantly higher than the for CMD group by an average of 2.51 points. This difference could have ranged from 1.0 point to 4 points. The Mokken Employed Satisfaction Score for the MHC group was also significantly higher than the MHSU group by an average of 2.3 points. This difference could have ranged from 0.9 points to 3.7 points. The CMD group scored an average of 0.24 points more than the MHSU group, but this difference was not statistically significant.

TABLE 53 Mokken Employed Satisfaction Score by mental health status group (two items: minimum score = 6, maximum score = 12)

Effect size (η^2) = 0.11 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.2 (2.77)	MHC	–2.51	0.000	–3.99	–1.03
		MHSU	–0.24	NS	–2.07	1.59
MHC	6.8 (3.4)	CMD	2.51	0.000	1.03	3.99
		MHSU	2.27	0.000	0.87	3.67
MHSU	4.5 (2.9)	CMD	0.24	NS	–1.59	2.07
		MHC	–2.27	0.000	–3.66	–0.87

Mokken Unemployed Satisfaction Score

Mental health status does not have a statistically significant association with the Mokken Unemployed Satisfaction Score [$F(2,279) = 0.87$, $p = 0.420$]. The results presented in *Table 54* show that, although the MHC group scored slightly higher on the Mokken Unemployed Satisfaction Score than the CMD and MHSU groups, this difference was not statistically significant.

TABLE 54 Mokken Unemployed Objective Score by mental health status group (two items: minimum score = 6, maximum score = 13)

Effect size (η^2) = 0.01 (small)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	5.51 (2.3)	MHC	–0.66	NS	–1.87	0.54
		MHSU	–0.69	NS	–2.24	0.86
MHC	6.17 (3)	CMD	0.66	NS	–0.54	1.87
		MHSU	–0.03	NS	–1.21	1.15
MHSU	6.21 (2.5)	CMD	0.69	NS	–0.86	2.24
		MHC	0.03	NS	–1.15	1.21

Mokken Finance Opportunities Scale

Mental health status has a medium ($\eta^2 = 0.09$)[137] and statistically significant association with the Mokken Finances Opportunities Scale [$F(2,290) = 14$, $p = 0.00$]. The results presented in *Table 55* show that the Mokken Finances Opportunities Scale for the MHC group was significantly higher than the CMD group by an average of 2 points. This difference could have ranged from 1.0 point to 3 points. The MHC group also scored significantly higher than the MHSU group, by an average of 1.2 points. This difference could have ranged from 0.7 points to 2.2 points. The MHSU group scored an average of 0.77 points more than the CMD group, but this difference was not statistically significant.

TABLE 55 Mokken Finances Opportunities Scale (five items: minimum score = 1, maximum score = 13)

Effect size (η^2) = 0.09 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.5 (2.3)	MHC	–2	0.00	–2.98	–1.01
		MHSU	–0.77	NS	–2.03	0.5
MHC	6.5 (2.5)	CMD	2	0.00	1.01	2.99
		MHSU	1.23	0.01	0.26	2.2
MHSU	5.3 (1.9)	CMD	0.77	NS	–0. 5	2.03
		MHC	–1.3	0.01	–2.2	–0.26

Mokken Finance Satisfaction Scale

Mental health status has a medium ($\eta^2 = 0.12$)[137] and statistically significant association with the Mokken Finances Satisfaction Scale [$F(2,290) = 19.58$, $p = 0.00$]. The results presented in *Table 56* show that the Mokken Finances Satisfaction Scale for the MHC group was significantly higher than the CMD group by an average of 3.9 points, with a confidence interval of 2.01 to 5.69. The MHC group also scored significantly higher than the MHSU group, by an average of 3.7 points. This difference could have ranged from 1.7 points to 5.4 points. The MHSU group scored an average of 0.29 points more than the CMD group, but this difference was not statistically significant.

TABLE 56 Mokken Finances Satisfaction Scale (four items: minimum score = 3, maximum score = 27)

Effect size (η^2) = 0.12 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	12.1 (4.7)	MHC	–3.85	0.00	–5.69	–2.01
		MHSU	–0.29	NS	–2.67	2.08
MHC	15.9 (4.3)	CMD	3.85	0.00	2.01	5.69
		MHSU	3.56	0.00	1.74	5.38
MHSU	14.9 (4.8)	CMD	0.29	NS	–2.08	2.67
		MHC	–3.56	0.00	–5.38	–1.74

Mokken Education Mixed Score

Mental health status has a medium ($\eta^2 = 0.07$)[137] and statistically significant association with the Mokken Education Mixed Score [$F(2,290) = 11.62$, $p = 0.00$]. The results presented in *Table 57* show that the Mokken Education Mixed Score for the MHC group was significantly higher than the CMD group by an average of 1.5 points, with a confidence interval of 0.7 to 2.3. The MHC group also scored significantly higher than the MHSU group, by an average of 0.9 points. This difference could have ranged from 0.2 points to 1.7 points. The MHSU group scored an average of 0.56 points more than the CMD group, but this difference was not statistically significant.

TABLE 57 Education Mixed Score (four items: minimum score = 0, maximum score = 10)

Effect size (η^2) = 0.07 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	4.18 (2.3)	MHC	–1.47	0.00	–2.261	–0.67
		MHSU	–0.56	NS	–1.58	0.47
MHC	5.64 (1.8)	CMD	1.47	0.00	0.67	2.26
		MHSU	0.91	0.00	0.13	1.7
MHSU	4.73 (2.23)	CMD	0.56	NS	–0.47	1.58
		MHC	–0.91	0.00	–1.69	–0.13

Mokken Education Satisfaction and Objective Items

Mental health status has a medium ($\eta^2 = 0.08$)[137] and statistically significant association with the Mokken Education Satisfaction and Objective Items score [$F(2,290) = 13.25$, $p = 0.00$]. The results presented in *Table 58* show that the Mokken Education Satisfaction and Objective Items score for the MHC group was significantly higher than for the CMD group by an average of 2.84 points. This difference could have ranged from 1.5 points to 4.2 points. The MHC group also scored higher than the MHSU group, but this difference was not statistically significant. The MHSU group scored more highly than the CMD group, but again this difference, was not statistically significant.

TABLE 58 Education Satisfaction and Objective Items by mental health status group (four items: minimum score = 0, maximum score = 16)

Effect size (η^2) = 0.08 (medium)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	7 (4.19)	MHC	–2.84	0.000	–4.20	–1.47
		MHSU	–1.46	NS	–3.23	0.3
MHC	9.8 (3.3)	CMD	2.84	0.000	1.47	4.20
		MHSU	1.37	NS	0.02	2.72
MHSU	8.5 (2.9)	CMD	1.46	NS	–0.3	3.23
		MHC	–1.37	NS	–2.72	–0.02

Mokken Satisfaction Family Score

As the Levene test of homogeneity of variances was violated in this case ($p = 0.00$), and was not improved by repeating the test with transformed data, results are reported for the Welch and Brown–Forsythe tests instead. There was a medium ($\eta^2 = 0.12$)[137] and statistically significant relationship (Welch = 10.4, $p = 0.00$; Brown–Forsythe = 10.9, $p = 0.00$) between mental health status and the Mokken Satisfaction Family Score. *Table 59* shows the mean scores and standard deviation by mental health status group. The MHC group had the highest mean score and the MHSU group the lowest.

TABLE 59 Mokken Employed Opportunities Score by mental health status group (three items: minimum score = 3, maximum score = 21)

Effect size (η^2) = 0.12 (medium)	Mean (SD)
CMD	15.5 (4.2)
MHC	17.1 (2.97)
MHSU	13.5 (5.4)

Mokken Satisfaction Friends

Again, the Levene test of homogeneity of variances was violated in this case ($p = 0.00$), and was not improved by repeating the test with transformed data; results are therefore reported for the Welch and Brown–Forsythe tests instead. There was a medium ($\eta^2 = 0.10$)[137] and statistically significant relationship (Welch = 12.8, $p = 0.00$; Brown–Forsythe = 12.3, $p = 0.00$) between mental health status and the Mokken Satisfaction Friends Score. *Table 60* shows the mean scores and standard deviation by mental health status group. The MHC group had the highest mean score and the MHSU group the lowest.

TABLE 60 Mokken Employed Opportunities Score by mental health status group (four items: minimum score = 4, maximum score = 28)

Effect size (η^2) = 0.10 (medium)	Mean (SD)
CMD	17.3 (5.1)
MHC	20.3 (4.1)
MHSU	16.8 (5.3)

Mokken Objective Items Social

Mental health status has a small ($\eta^2 = 0.05$)[137] and statistically significant association with the Mokken Objective Items Social score [$F(2,291) = 7.15$, $p = 0.01$]. The results presented in *Table 61* show that the Mokken Objective Items Social scores for the MHC group were significantly higher than for the MHSU group by an average of 0.63 points; this difference could have ranged from 0.2 points to 1 point. The MHC group also scored higher than the CMD group but this difference was not statistically significant. The CMD group scored more highly than the MHSU group, but again this difference was not statistically significant.

TABLE 61 Mokken Objective Items Social Score by mental health status group (three items: minimum score = 0, maximum score = 3)

Effect size (η^2) = 0.05 (small)	Mean (SD)	Mean difference		*p*-value	95% confidence interval	
					Lower bound	Upper bound
CMD	1.1 (1.1)	MHC	–0.41	NS	–0.85	0.04
		MHSU	0.22	NS	–0.35	0.79
MHC	1.5 (1.1)	CMD	0.41	NS	–0.04	0.85
		MHSU	0.63	0.00	0.19	1.06
MHSU	0.9 (1)	CMD	–0.22	NS	–0.79	0.35
		MHC	–0.63	0.00	–1.06	–0.19

Appendix 17

Notes from meeting with a mental health service

A London Mental Health Trust, 25 February 2010

Teams are not able to devote staff time to administering questionnaires but willing for research staff to go to meetings and administer them there.

Following comments made on SCOPE:

- Q9 What type of accommodation does your household occupy? *What about a 'not applicable'? Or a 'no fixed abode'?*
- Q10 How many cars/vans are owned or available for use? *Include a 'not applicable'.*
- Q20 What is your personal income? *Team advised that all service users are on benefits only for their income but some respondents with delusional symptoms are likely to say that they are earning in excess of the higher bands.*
- Q22 If you needed someone to lend you a small amount of money for a local taxi fare …? *Suggested changing taxi to cigarettes as this is more relevant to the service user group.*
- Q23 Who would this person (from Q22) be? *Staff pointed out that it would probably be staff.*
- Info. Sheet: *Suggest changing 'when the intervention ends' to 'when you leave the service'.*

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Senior NIHR Programme Manager, Department of Health

Dr Morven Roberts,
Clinical Trials Manager, Health Services and Public Health Services Board, Medical Research Council

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Director, NIHR HTA programme, Professor of Clinical Pharmacology, University of Liverpool

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Senior NIHR Programme Manager, Department of Health

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Clinical Trials Manager, Health Services and Public Health Services Board, Medical Research Council

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Professor of Public Health in the Early Years, Health Sciences Research Institute, Warwick Medical School

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Consultant Psychiatrist, Leicestershire Partnership NHS Trust

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Senior Clinical Lecturer in Speech and Language Therapy, University of Manchester

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Public contributor

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Mental Health User Consultant

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Research Network, Yorkshire
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We look forward to hearing from you.

NETSCC, Health Technology Assessment
Alpha House
University of Southampton Science Park
Southampton SO16 7NS, UK
Email: hta@hta.ac.uk
www.hta.ac.uk

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